U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

Long Term Pavement Performance Division

FINAL

SPECIFIC PAVEMENT STUDIES

CONSTRUCTION REPORT FOR EXPERIMENT SPS-2

STRATEGIC STUDY OF STRUCTURAL FACTORS FOR

RIGID PAVEMENT

EHRENBERG-PHOENIX HIGHWAY, MARICOPA COUNTY, ARIZONA

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I. Abstract

A contract was awarded to the Tanner Companies, January 15, 1993, for the rehabilitation of 22.39 miles of Interstate Highway I-10 in Maricopa County, Arizona for approximately 8.5 million dollars. This project, IM-10-2(146), was located approximately 35 miles west of Phoenix between Tonopah and State Spur route 85 and included pavement rehabilitation, bridge and culvert rehabilitation, and an experimental Strategic Highway Research Program (SHRP) section. Roadway plans were designed utilizing the 1991 Construction Standard Drawings (C-series), and current State revisions.

The Arizona Department of Transportation (ADOT) agreed to incorporate a SHRP experiment within this project. The Specific Pavement Study (SPS-2) of new Portland Cement Concrete Pavement (PCCP) in a dry, no-freeze environment will be examined for performance and longevity as structural factors for rigid pavements are varied. Twelve - 500 foot test sections of doweled and jointed plain concrete pavement will be compared as combinations of base, subbase and wearing surface material are varied in 12 and 14 foot lane widths.

Four additional sections of skew jointed PCCP, three PCCP state sections, and two state asphalt pavement sections will also be evaluated under this SHRP study.

Construction began in April, 1993 with project acceptance January 27, 1994. The following report examines the general characteristics of the construction phases of this SPS-2 study, the component materials utilized, their placement, and any deviations from recommended SHRP SPS-2 construction guidelines that might have occurred.

Table 1: Table of Abbreviations

The following abbreviations are generally used in this publication.

AASHTO	American Association of State Highway Transportation Officials
AC	Asphalt Concrete
ADOT	Arizona Department of Transportation
ADT	Average Daily Traffic
ATED	Aggregate - Trench Edge Drain
BTB	Bituminous Treated Base
CY.	Cubic yard
DGAB	Dense Graded Aggregate Base
DIA	Diameter
EB	Eastbound (traffic direction)
FWD	Falling Weight Deflectometer
LCB	Lean Concrete Base
LTPP	Long Term Pavement Performance
NCE	Nichols Consulting Engineers
OZ/CY	Ounces per cubic yard
PBTB	Permeable Bituminous Treated Base
PCCP	Portland Cement Concrete Pavement
PCF	Pounds per cubic foot
PVC	Polyvinylchloride (plastic pipe)
SHRP	Strategic Highway Research Program
SPS	Specific Pavement Study
SPS-2	Specific Pavement Study - PCCP New Construction
WB	West Bound (traffic direction)
W/C	Water cement ratio
WIM	Weigh in Motion
WTI	Western Technologies Incorporated (lab testing)

II. Introduction:

The SPS-2 experiment, Strategic Study of Structural Factors for Rigid Pavements, requires the construction of multiple test sections with similar details and materials at each of sixteen sites distributed in the four climatic regions of the U.S. and Canada. The primary SPS-2 experiment requires the construction of twelve test sections at each of the test sites to examine doweled jointed plain concrete pavements. In addition to the primary experiment, supplementary SPS-2A and SPS-2B sites can be constructed at each of the sites (SPS-2A: six additional sites, SPS-2B: eight additional sites) to study undoweled skew jointed plain concrete or jointed reinforced concrete pavements.

The SPS-2 experiment (Table 2) was developed to investigate the effect of selected structural factors on the long term performance of rigid pavements constructed on different soil types in different climatic environments such as Wet: freeze and no-freeze and Dry: freeze and no-freeze. The structural factors studied include concrete slab thickness, concrete strength, base material, drainability (permeability), and lane width.

This experiment has been developed as a coordinated national effort to address the needs of the highway community at large. Therefore, it is important to control construction uniformity at all test sites to reduce the influence of construction variability on test results.

Table 2: SHRP SPS-2 Statistical Grid

PAVEMENT STRUCTURE					CLIMATE ZONES, SUBGRADE SITE							
					WET				DRY			
					Freeze		No Freeze		Freeze		No Freeze	
Drain	Base	PCC Thick In	PCC Strength psi	Lane ft	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse
NO	DGAB	8	550	12								
				14								
			900	12								
				14								
		11	550	12								
				14								
			900	12								
				14								
NO	LCB	8	550	12								
				14								
			900	12								
				14								
		11	550	12								
				14								
			900	12								
				14								
YES	PATB DGAB	8	550	12								
				14								
			900	12								
				14								
		11	550	12								
				14								
			900	12								
				14								

DGAB = Dense Graded Untreated Aggregate Base LCB = Lean Concrete Base

PATB = 4-inch Permeable Asphalt Treated Base on 4 inch Dense Graded Aggregate Base DGAB

III. SPS-2 SHRP Project Description:

This SPS-2 SHRP project was located in the eastbound direction of I-10 between mileposts 106 and 109 (Figure 1). The project was constructed with 21 sections of varying depth, width and materials as displayed in Figure 2. Section attributes are listed in Table 3 and shown in Figures 3 and 4. Of the 21 sections, 12 were doweled and jointed SPS-2 sections, 4 were "SPS-2A Type" undoweled and skewed jointed Supplemental Sections, 3 were ADOT doweled and jointed PCCP sections, and 2 were ADOT asphalt concrete pavement sections.

This project is classified as a Dry, No-Freeze zone with 1992 Average Daily Traffic (ADT) equal to 15,900, year 2002 ADT equal to 20,400, and a design speed of 70 mph. Typical temperatures during the construction period ranged from a low of 65°F to a high of over 110°F. The overall climate is described as a dry desert environment. The alignment consists of four lanes following a fairly straight and level terrain with the average project elevation at 1100 feet msl. During construction, the two lanes of eastbound traffic were merged into one lane and rerouted via a median crossover to one of the two westbound lanes.

Start time for this contract was February 16, 1993, with lab set up accomplished March 22. The clearing and grubbing the median was accomplished May 10-11, detour earthwork May 11+ and detour AC laydown accomplished May 19+. Detour signing and striping started June 10th and the Eastbound lanes were closed to traffic June 14th, 1993. As millings were used for the slopes of the SHRP sections, milling was accomplished June 17-30 with the final removal of the old pavement structure, June 28- July 19th.

A listing of subcontractors and suppliers is shown in Tables 4 and 5.

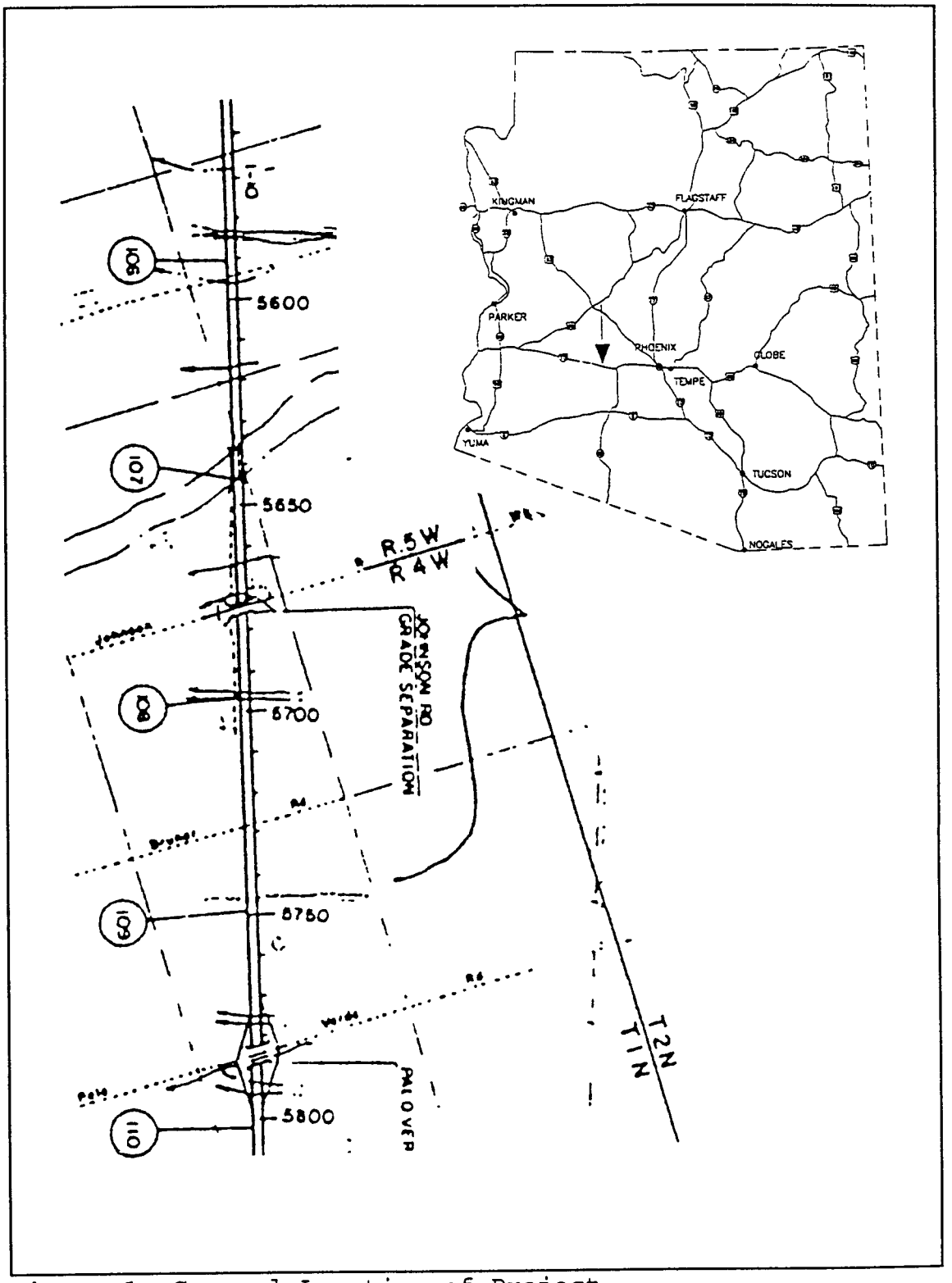


Figure 1: General Location of Project.

Primary project personnel consisted of:

ADOT:

Larry Scofield - ATRC (AZ Trans. Research Center)
Lonnie Hendrix - ATRC
Sim Brubaker - Resident Engineer
Lewis Ferguson - Project Supervisor

Neil Richards	Keith Turner
James L. Wiler	Benito Torres
Gary Williams	Steve Tischler
Mary Harlan	Roman Rodrigues
Jerry Poling	Herb Steilen

Tanner Construction:

Dan Cook - Project Manager
Matt McNeil - Concrete Paving Supervisor
Earl Walker - Concrete Batch Plant Supervisor
Chuck Price - Asphalt Paving Supervisor
Mike Kauhart
Tori Robinson

* Six Trainees were also employed.

Western Technologies Incorporated: SHRP Section Testing

Mike Kunzelman - Testing Supervisor
Don Estep - Lead Technician

Nichols Consulting Engineers: SHRP Section Monitoring

Pete Pradere	Doug Frith
Robert B. Szrot	Brion Barnett
Marco Fellin	Charles Hicks

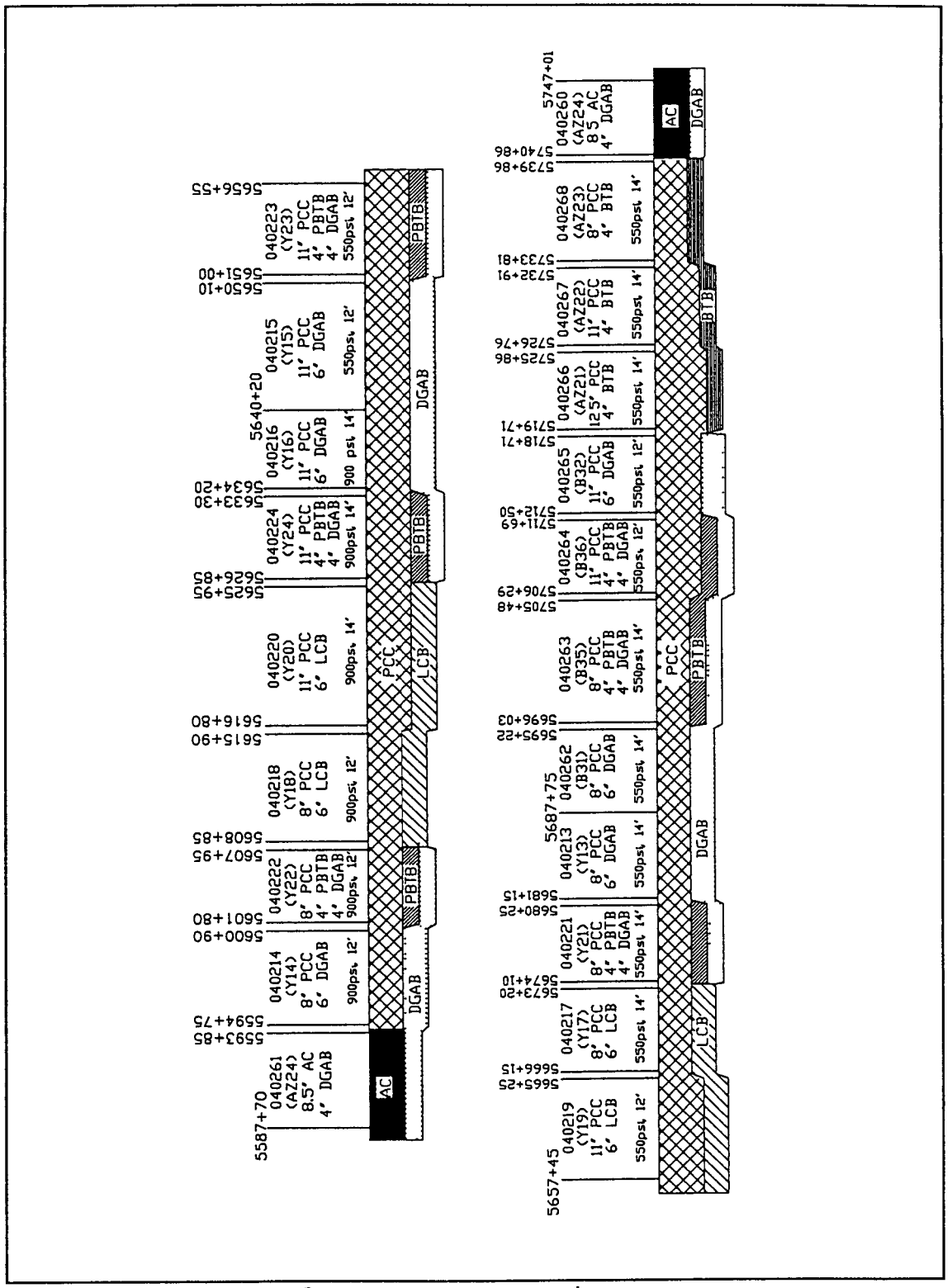


Figure 2: Layout of SPS-2 SHRP Sections.

Table 3: Test section locations and attributes, SPS-2 Arizona.

Section No.	Start Section	Start Monitor	End Monitor	End Section	Notes
040261 (AZ24)	5587+70	5588+20	5593+20	5593+85	8.5"AC\4"DGAB
Trans	5593+85			5594+75	
040214 (Y14)	5594+75	5595+25	5600+25	5600+90	12'\DGAB\8"\900#\D
Trans	5600+90			5601+80	
040222 (Y22)	5601+80	5602+30	5607+30	5607+95	12'\PBTB\8"\900#\D
Trans	5607+95			5608+85	
040218 (Y18)	5608+85	5609+80	5614+80	5615+90	12'\LCB\8"\900#\D
Trans	5615+90			5616+80	
040220 (Y20)	5616+80	5620+30	5625+30	5625+95	14'\LCB\11"\900#\D
Trans	5625+95			5626+85	
040224 (Y24)	5626+85	5627+50	5632+50	5633+30	14'\PBTB\11"\900#\D
Trans	5633+30			5634+20	
040216 (Y16)	5634+20	5634+70	5639+70	5640+20	14'\DGAB\11"\900#\D
Trans	5640+20			5640+20	
040215 (Y15)	5640+20	5644+45	5649+45	5650+10	12'\DGAB\11"\550#\D
Trans	5650+10			5651+00	
040223 (Y23)	5651+00	5651+50	5656+50	5657+15	12'\PBTB\11"\550#\D
Trans	5657+15			5658+05	
040219 (Y19)	5658+05	5659+15	5664+15	5665+25	12'\LCB\11"\550#\D
Trans	5665+25			5666+15	
040217 (Y17)	5666+15	5667+10	5672+10	5673+20	14'\LCB\8"\550#\D
Trans	5673+20			5674+10	
040221 (Y21)	5674+10	5674+60	5679+60	5680+25	14'\PBTB\8"\550#\D
Trans	5680+25			5681+15	
040213 (Y13)	5681+15	5681+95	5686+95	5687+75	14'\DGAB\8"\550#\D
Trans	5687+75			5687+75	
040262 (B31)	5687+75	5689+00*	5694+00	5695+22	14'\DGAB\8"\550#\UD
Trans	5695+22			5696+03	
040263 (B35)	5696+03	5699+00*	5704+00	5705+48	14'\PBTB\8"\550#\UD
Trans	5705+48			5706+29	
040264 (B36)	5706+29	5706+49*	5711+49	5711+69	12'\PBTB\11"\550#\UD
Trans	5711+69			5712+50	
040265 (B32)	5712+50	5713+00*	5718+00	5718+71	12'\DGAB\11"\550#\UD
Trans	5718+71			5719+71	
040266 (AZ21)	5719+71	5720+00*	5725+00	5725+86	14'\BTB\12.5"\550#\D
Trans	5725+86			5726+76	
040267 (AZ22)	5726+76	5727+00*	5732+00	5732+91	14'\BTB\11"\550#\D
Trans	5723+91			5733+81	
040268 (AZ23)	5733+81	5734+00*	5739+00	5739+86	14'\BTB\8"\550#\D
Trans	5739+86			5740+86	
040260 (AZ24)	5740+86	5741+36	5736+00	5747+01	8.5"AC\4"DGAB

DGAB-Dense Graded Aggregate Base / BTB-Bituminous Treated Base / LCB-Lean Concrete Base / PBTB-Permeable Bituminous Treated Base
AC- Asphalt Concrete / 8" or 11"- PCC surface thickness, inches. / 550# or 900#- design flexural strength for PCC mix, psi.
14' or 12'- outside lane width, feet. / D or UD- Doweled or Undoweled joints
* Location used for base and subgrade sampling and testing. Actual location will depend on constructed joint spacing sequence.

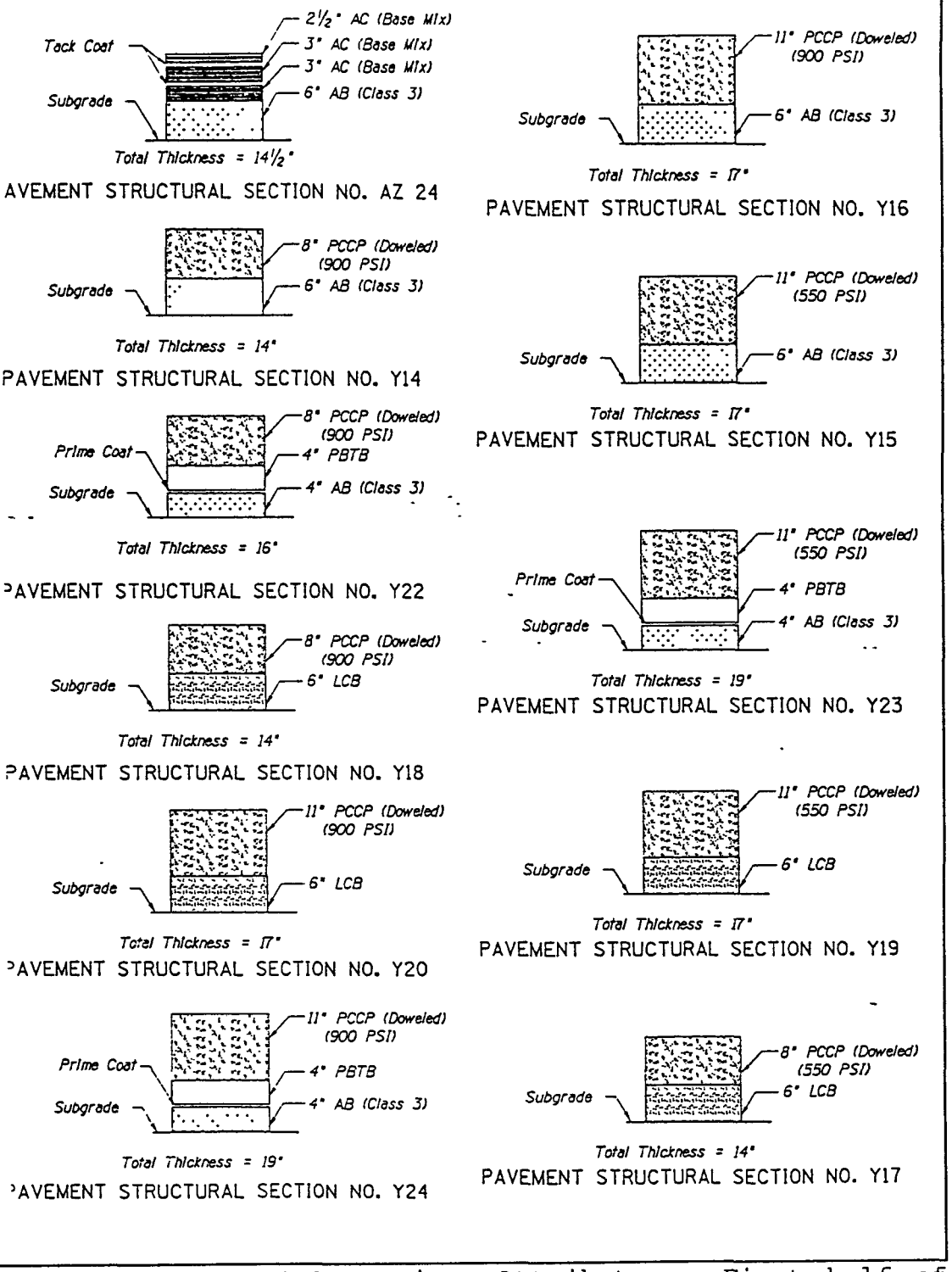


Figure 3: SHRP SPS-2 Sections Attributes - First half of project.

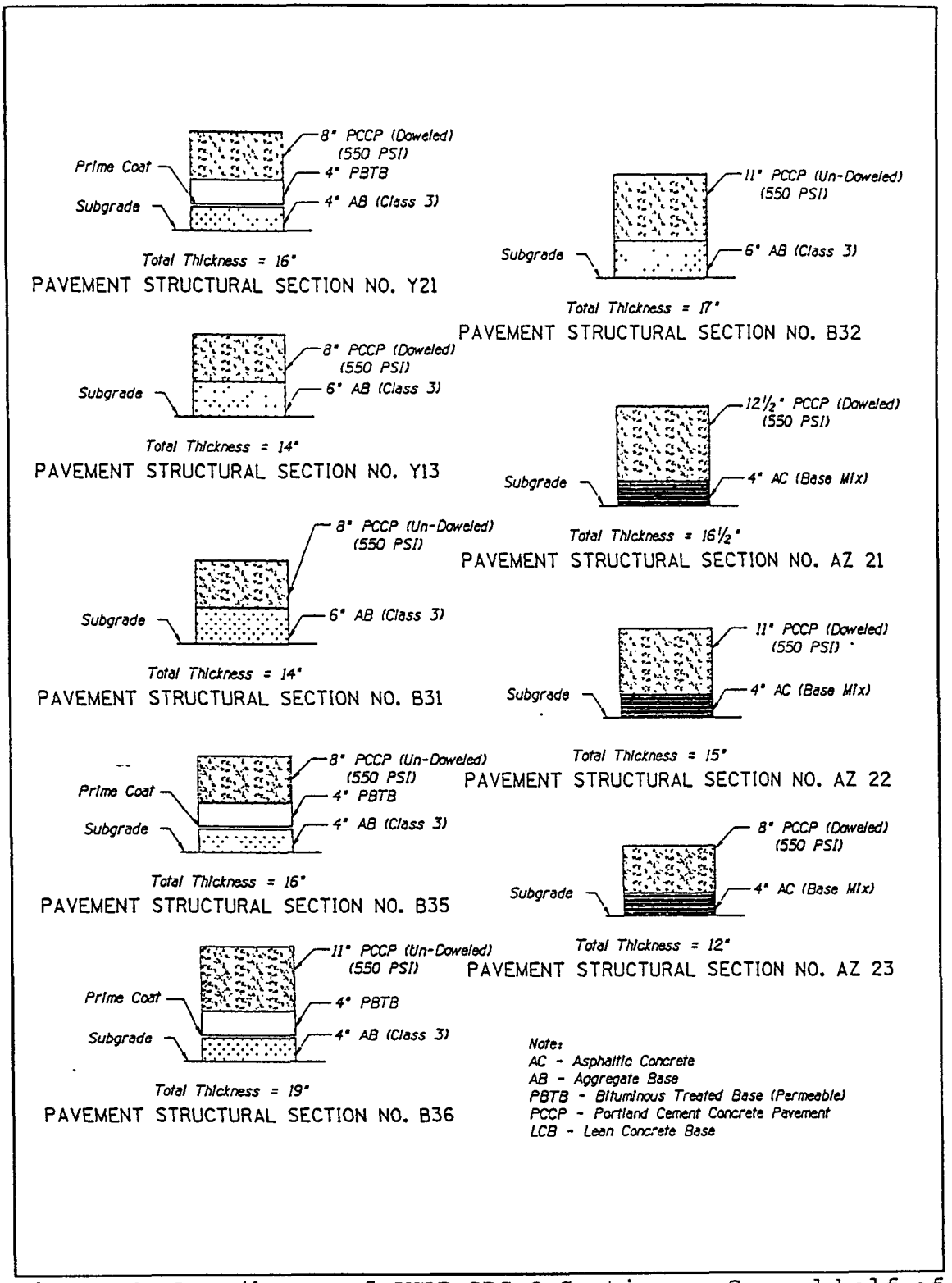


Figure 4: Attributes of SHRP SPS-2 Sections - Second half of project.

Table 4: SPS-2 Project Subcontractors.

Subcontractor	Office Location	Project Items
Ceballos Electric Contracting and Engineering	Phoenix, AZ	Weigh-In-Motion, WIM
Traffic Marking and Striping, Inc	Tempe, AZ	Striping and Tubular Markers
Endo Steel, Inc	Mesa, AZ	Reinforcing Steel
Arizona Highway Safety Specialists, Inc	Prescott, AZ	Guard Rail
Cactus Transport, Inc	Phoenix, AZ	Prime and Tack Coats
Anderson Reclamation and Construction, Inc	Mesa, AZ	Seeding
FNF Construction, Inc	Tempe, AZ	Asphalt Rubber Material
Phoenix Concrete Cutting, Inc	Phoenix, AZ	PCCP Sawing and Sealing
James Bond Trucking Company, Inc	Phoenix, AZ	Partial Hauling

Table 5: SPS-2 Project Suppliers.

Supplier	Office Location	Supplied Items
Cactus Transport, Inc	Phoenix, AZ	AC-20, AC-40
Barricade and Light Rental, Inc	Phoenix, AZ	Barricades
Pre-Cast Manufacturing Company	Phoenix, AZ	Precast Outlet Headwall
Kajima Engineering and Construction, Inc	Chandler, AZ	Quality Control
Phoenix Culvert Company	Phoenix, AZ	CMP, Flared End Sections, Fabric
Gene McVety, Inc	Phoenix, AZ	PVC Pipe and Fittings
Pioneer Sand Company	Gilbert, AZ	Concrete Rock for PCCP
Arizona Portland Cement Company,	Phoenix, AZ	Cement
Phoenix Cement Company	Phoenix, AZ	Flyash
W R Grace and Company	Glendale, AZ	Chemical Additives
Brost Forming Supply, Inc	Phoenix, AZ	Load Transfer Dowel Assemblies
United Metro Materials	Phoenix, AZ	PTB, AC

IV. Pre-Construction

A. Aggregate Sources:

A brief statement must be addressed to the source aggregates for this project. While two aggregate sources were primarily used, each source went under several different names. These differences were noted in mix designs, inspector diaries, and test documents. The Tanner Pit is also called the Palmer Pit for the landowner and again called the Hassayampa Pit as it is located on the Hassayampa River (Tanner = Palmer = Hassayampa). Another source is the Pioneer Pit which is also called the Salt River Pit due to it's location on the Salt River (Pioneer = Salt River). A list of what aggregates went into which process is listed below in Table 6.

Table 6: Process Component Sources.

	Course Aggregate	Fine Aggregate	Cement
DGAB	Palmer		
PBTB	Salt River		AC 20 - Metro 1 Plant
AC Pavement			AC 40
LCB	Pioneer	Hassayampa	Phoenix Cement
PCCP	Pioneer	Hassayampa	Phoenix Cement

All aggregates were crushed.

B. Concrete Trial Batching

To assure field beam strengths could be achieved during construction, the contractor performed several field trial batches utilizing the same aggregates, cement, admixtures, and batch plant that would be used on the SPS-2 Project. This work was accomplished July 14, 1993 in the field at Squaw Peak at another project under construction by Tanner Construction. The aggregates that would be used on the SPS-2 project were hauled some 30 miles and stockpiled at this site. As the contractor was paving at night, all the trial batches were accomplished during the day.

As the contractor was concerned with disturbing the beams and the extremely hot temperatures encountered in Phoenix at this time of year (100 degrees plus), he set up a refrigerated semi-trailer to place the samples in. A 3 inch thick wet sand bedding was placed over the floor of the trailer as the samples were shipped in their molds to WTI (Western Technologies Inc.) in the same trailer after a 48 hour minimum undisturbed curing. A temperature of 72 degrees was to be maintained in the trailer. As some minor vibrations in the trailer were noticed due to the air conditioner, it was decided to cool the trailer as much as possible for an hour and then to wait at least 12 hours to turn on the air conditioner to avoid vibrating the beam samples in the initial plastic state. Although a recording thermometer was not available, the wet sand blanket maintained reasonably cool temperatures in the trailer. Once at WTI, both the beams and the cylinders were stripped from their molds and placed in the fog room for the remainder of curing process. In addition, beams were placed in a lime-water bath while in the fog room.

Several trial batches were made for both the 900 psi and 550 psi flexural strength concrete in accordance with several proposed mix designs for each strength. Each trial batch was replicated several times to allow for field variance. Several 4 cy. batches were made utilizing different cement contents, air entraining agent amounts, water contents, etc. The batches were made and then dumped into a loader bucket which brought the material to the sampling site approximately 200 feet away. Each batch was checked for slump, air (those designs requiring air), unit weight, and batch temperature prior to sampling (a few batches were rejected).

The material was sampled by WTI and Tanner personnel with monitoring by ADOT, PCS Law, and NCE personnel. The first batches were made at around 7:00am and the last batches were made around 2:30pm with the ambient temperature at 82°F at the start and in excess of 100°F at the finish. 3 - Beam Molds, 8 - 4" x 8" cylinders, and 10 - 6" x 12" cylinders were made from each of the acceptable batches as samples were obtained in the following manner:

a) Material was batched and immediately brought to the sampling site.

b) Temperature, slump, unit weight, and air was measured and samples taken if design criteria was met.

c) Material was shoveled into two wheel barrows whereby beams were cast from one wheelbarrow and cylinders from the other. Later in the day, beams were cast directly from the loader.

d) Cylinders were cast on a vibrating table and were hand rodded. Beams were vibrated utilizing a hand held vibrating wand. Cylinders for ADOT's course mix (1½" max) were vibrated with the hand held wand.

The results of the 900 psi mix trial batches were not acceptable and the contractor repeated the above process August 3 in the same manner. On August 20 the 900 psi mix was again field batched for a final trial. The cement contents were reduced from the second field trial. Similar procedures were utilized, although at this time the batch plant and all materials were located on the SPS-2 job site at Johnson Road.

V. Construction:

A. Subgrade:

Over-excavation of the SHRP sections (Figure 5.) started July 1, 1993, as the old roadway was milled, bladed up, and hauled to waste. Subgrade preparation was initiated on July 7th with the following equipment being dedicated to the SHRP subgrade preparation:

- 1 Cat 623 Front End Loader
- 1 Cat 825 Sheepsfoot Compactor
- 1 Blade
- 1 Water Truck
- 3 Earth Movers/Scrapers

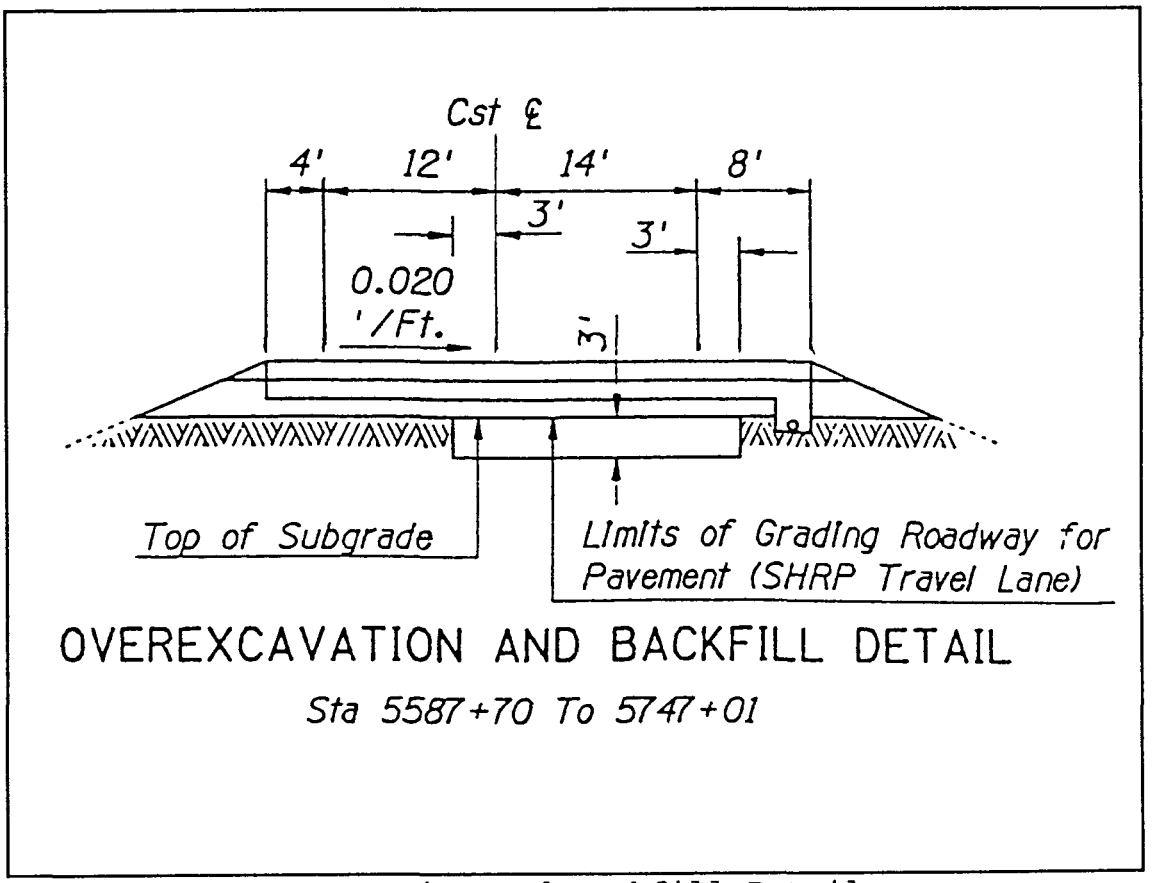


Figure 5: Overexcavation and Backfill Detail.

The scrapers started by excavating a 3000' long section of alignment 1' below grade and wasting the material. Next, the adjacent 3000' section material was placed into the previous 3000' section as water and compactive effort was applied. As this process continued along the alignment, insitu testing was accomplished with ADOT sand cone density testing. Resulting compaction ranged from 95.0% to 97.0% of maximum lab density. A minimum 95% of lab density is required per contract specifications. No chemical additives were incorporated into the subgrade and weather was reported as sunny and hot over the duration of this day-time subgrade preparation process.

Compacted subgrade elevation was set .1 to .2 feet higher than grade to accommodate the trimming operation. Guide wires were set on 7' offsets (July 15th) by Tanner surveyors for horizontal and vertical controls. Subgrade trimming started July 26th with the arrival of a Gomaco Model 9500 Trimmer and its operator. Field reports document cutting .1-.2 feet to accomplish grade for the trimming of the subgrade. As the trimmer was 17' wide, it required 3 passes (left, center, and right) to trim the full width of the subgrade.

Subgrade trimming was finished July 30th with ADOT personnel checking and recording finished elevations every 3' transversely and 50' longitudinally. FWD testing was simultaneously performed. Examination of longitudinal and transverse variation as per surveyed elevations showed a SHRP compliance of 92%, with only 8% of surveyed elevations deviating from a SHRP specified uniform transition by more than .04'/50' (about 1/2 inch over 50 feet). Subgrade material properties are displayed in Appendix B.

B. Dense Graded Aggregate Base (DGAB):

The hauling of aggregate from the Palmer pit started July 29th to the west end of the SHRP test sections (sta 5587+00). Equipment present for this phase of construction included the following:

- 2 140G Cat Blades
- 1 Rubber Tire Roller
- 1 International Water Truck
- 1 Gomaco Model 9500 Trimmer
- 20 Belly Dump Trucks

The DGAB material (Table 7) consisted of a crushed river bed aggregate with 55% retained on the #4 sieve (spec=min 50%). The maximum top size aggregate was 1 inch and, of the particles retained on the ⅜" sieve, 79% had 2 or more fractured faces (spec=min 75%). The L.A. Abrasion Test was not performed on this aggregate.

Placement occurred as the belly dumps unloaded on the alignment, the grader then moved the DGAB material to one side, immediately followed by the water truck. The grader worked the material back and forth several times, each time followed by the water truck. The rubber tire roller then made several passes to accomplish compaction of the 4 or 6 inch thick DGAB layer.

Initial DGAB material samples #1, #2, and #2A looked "rocky" and failed to meet specifications. Sand was added to bring the material into spec with sample #3. The sections affected by Sample #1 were 040261, 040214, and 040222. Sample #2 was taken at station 5629+66 (040224). Sample #2A was taken at sta 5630+33 (040224) as sand was brought in to re-process the sections. Sample #3 at sta 5638+20 (040216) then passed (August 2nd) after the sections were re-processed.

The thickness of the untrimmed DGAB typically ran 6¾" or 4¼" with compaction at over 100% of lab density. Samples continued to pass gradation. The August 5th gradation tests on samples #9, #9A, and #10 failed with problems on the ⅜" sieve. The area out of spec represented sta 5696+03 to sta 5718+71 (040263, 040264, and 040265). Three loads of sand were spread between sta 5699+50 to 5715+00 then blade re-processed.

DGAB trimming started at 040261 on August 8th with inspectors reporting that the trimmer had some difficulty picking up excess DGAB. Excess material was loaded into belly dumps and taken up station. The DGAB ran .02 feet high (about 1/4 inch) after trimming with the intent that truck traffic on the DGAB would reduce this by another .01 feet. The DGAB placement finished on August 13th as elevations were taken and recorded with FWD testing simultaneously performed. DGAB layer thickness is displayed in Appendix C.

Table 7: DGAB Aggregate Gradations.

Course Aggregate	Source: Palmer	DGAB	Fine Aggregate	Source:
Sieve Size	% Passing		Sieve Size	% Passing
2"			No. 8	40
1 1/2"			No. 10	39
1"	100		No. 16	34
7/8"			No. 30	25
3/4"	81		No. 40	20
5/8"			No. 50	15
1/2"	65		No. 80	
3/8"	58		No. 100	9
No. 4	45		No. 200	6

C. Edge Drain Installation:

Installation began on August 9th, 1993 as Beecroft Trenching's Capital Model 450 Trencher facilitated a longitudinal trench 14" wide by 12" deep, and a transverse trench 24" wide by 14" deep (Figure 6). Tanner personnel then installed 6' wide filter fabric into the trenches as belly dumps placed 2" of ATED (Aggregate-Trench-Edge Drain) rock into the trench for pipe bedding. The drain rock consisted of clean AASHTO #57 grade rock (Table 8) from the Palmer pit with an average specific gravity of 2.62, 1.43% absorption, and 98% fractured faces. 4" diameter PVC slotted pipe was then laid into the trench (joining sections with a two part adhesive) as drain rock was placed on top of the pipe flush with the surrounding grade. Eighteen inches of filter fabric was left exposed above each trench side as wacker/jumping jack and vibratory plate units were used to compact the drain rock. Fabric was overlapped 12-18" at the end of each roll.

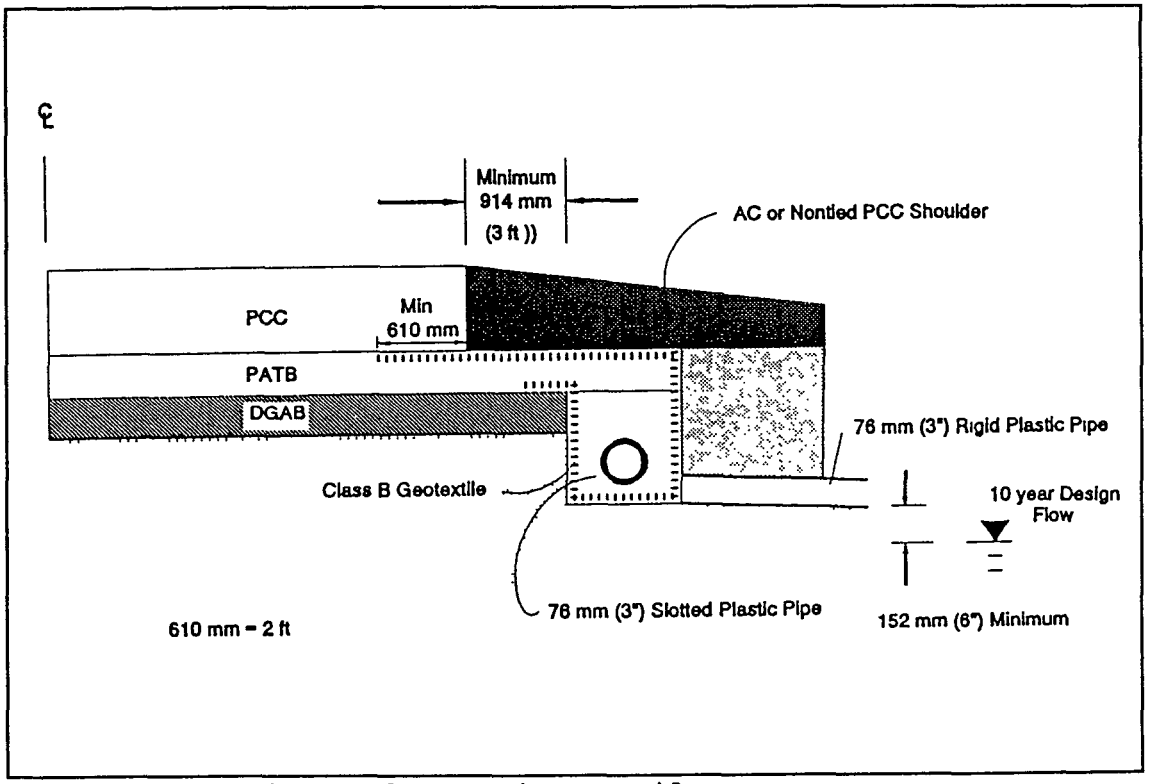


Figure 6: Project Edge Drain Detail.

Fabric properties and requirements were as follows:

Grab Strength· 200 (spec=180)
Puncture Strength· 230 (spec=80)
Trapezoid Tear: 102 (spec=50)
Burst Strength: 450 (spec=290)
Permitivity· .48 (spec= 1)
Gal/min/sq ft.. 80
Tensile Strength· 287 (spec=200)
Elongation· 57 8% (spec=45%min)

Amoco CEF Style 4553 geotextile filter fabric for the longitudinal edge drain and the transverse interceptor drains met the appropriate SHRP and ADOT specifications. Edge drain work was finished August 13th with fine hand grading accomplished.

Outlets for the edge drains were typically 200' apart (SHRP maximum 250') with transverse drains constructed at the low end of each Permeable Bituminous Treated Base (PBTB) section. Fabric certification is displayed in Appendix B with locations for interceptor and outlet drains displayed in Table 9.

Table 8: ATED Aggregate Gradations.

Course Aggregate	Source: Palmer -#308	ATED Rock	Fine Aggregate	Source:
Sieve Size	% Passing		Sieve Size	% Passing
2"			No. 8	1
1 1/2"			No. 10	1
1"	100		No. 16	
7/8"			No. 30	
3/4"	92		No. 40	
5/8"			No. 50	
1/2"	53		No. 80	
3/8"	28		No. 100	
No. 4	2		No. 200	

A transverse Asphalt Concrete (AC) wedge was originally planned to be placed alongside any transverse drains, but was eliminated as unnecessary per decision by ADOT. Transverse drains were installed perpendicular to centerline as opposed to the SHRP suggested acute angle. One noted problem was that the filter fabric, which was to "wrap around" the PBTB layer's edge (6' minimum - see Figure 6), usually fell far short of accomplishing this. Evidence of this shortcoming can be seen in the picture in Appendix A-4.

Table 9: Project Outlets and Interceptor Drains.

Station	Type	Section		Station	Type	Section
5603+85	Outlet	040222		5674+10[1] (moved from sta 5673+20)	Interc.	040221
5605+90	Outlet	040222		5676+75[2] (moved from sta 5675+55)	Outlet	040221
5607+95	Interc.	040222		5677+90	Outlet	040221
5626+85[1] (moved from sta 5625+95)	Interc.	040224		5697+24	Outlet	040254
5628+40	Outlet	040224		5698+73	Double Outlet	040254
5630+85	Outlet	040224		5699+14	Outlet	040254
5633+30	Interc.	040224		5701+23	Outlet	040254
				5703+32	Outlet	040254
5650+10	Interc.	040223		5705+48	Outlet	040254
5652+25	Outlet	040223		5707+51	Outlet	040255
5654+40	Outlet	040223		5709+60	Outlet	040255
5656+55[1] (moved from sta 5657+45)	Interc.	040223		5725+60	WIM Conduit	040257/ 040258

1) Moved due to Lean Concrete Base interference.
2) Moved due to Johnson Road interference.

D. Permeable Bituminous Treated Base (PBTB):

Installation started August 13th, 1993 with all sections brushed by a 140G Cat Blade (to smooth out any surface irregularities), watered, and then primed by a Cactus Transport Boot truck delivering MC-250 liquid asphalt at the rate of .50 gallons per square yard. The following day, inspectors reported that the prime coat had penetrated well. Filter fabric had been folded over the edge drain area to prevent intrusion of the liquid asphalt prime into the ATED.

A conflict of information regarding the ending station of section 040223 resulted in the installation of 90 additional feet of ATED trenching, pipe placement and priming to sta 5657+45. The area of dispute was the transition section between 040223 (PBTB) and 040219 (LCB).

ATA (a subsidiary of Tanner) started paving PBTB August 19, 1993 at the west end of section 040221 using a Shell AC20 binder (2.5% of mix volume) with Salt River aggregate from Tanner's 500 ton/hour United Metro#1 plant in Phoenix. The PF500 Blaw Knox track mounted paver, supplied by a Clarco Windrow Elevator, was laying 4½" of loose material at 225°F from 33 end dump trucks running at 1 hour haul times. The paver's first pass utilized a wire guide line on the right shoulder side and a ski on the opposite side of the paver for grade guidance. The center pass utilized a short ski off of the previous laid AC pavement and a 30 foot long ski off the DGAB.

To prevent soil intrusion into the PBTB on the median edge, a 3' wide roll of fabric was rolled out in front of the paving operation with the intent of having one foot under the PBTB layer and the remainder available to wrap around the finished outer median edge of the PBTB. With the elimination of the AC wedge adjacent to the transverse collector drains, filter fabric was also placed so that it could be folded back over the transverse drain before the PBTB is placed. Concern was raised about having enough fabric to sufficiently wrap the drain to prevent soil intrusion from the adjacent DGAB as enough fabric was not available to accomplish this. In addition, transverse drains were being run over by both loaded and empty trucks during this placement operation.

Two Ingersol-Rand steel wheel vibratory rollers (one DA-50 and one DD-90) obtained a roll down of approximately ¾" on the 150°F mat. On several occasions rolling was delayed until the evening to facilitate a cooling of the mat to under 170°F.

PBTB Section Highlights:

Section 040221: No significant paving notes. On September 1, Tanner bladed a 1" high spot at sta 5675+40 to sta 5676+90, 16'LT to 11'RT of centerline to smooth the area out.

Section 040222: Paving started, August 13, no significant notes.

Section 040223: Problems with the transition were noted as the PBTB did not achieve a smooth transition into the adjacent DGAB. The desired effect was to have 4" tapered to daylight over 50' (SHRP recommends that PBTB is not to be "daylighted"); the achieved effect was a uniform 4" mat at the start of the next section. Tanner bladed the area to smooth out the transition. Remaining tapers were evaluated with a stringline prior to the placing of Portland Cement Concrete Pavement (PCCP).

Section 040224: Paving, August 13. The paver's auger broke down after 1 pass resulting in a 3 hour shut down. Paving restarted August 19th, but paving was shut down again after 1 hour due to lack of materials. A dust storm and hard rain followed.

Table 10: PBTB Aggregate Gradations.

Course Aggregate	Source:	PBTB Rock	Fine Aggregate	Source:
Sieve Size	% Passing		Sieve Size	% Passing
2"			No. 8	2
1 1/2"			No. 10	0
1"	100		No. 16	
7/8"			No. 30	
3/4"	87		No. 40	
5/8"			No. 50	
1/2"	62		No. 80	
3/8"	33		No. 100	
No. 4	3		No. 200	

Section 040263: Transition design presented problems as aggregate was butted up against the PBTB at sta 5696+00 (end of section) instead of utilizing the transition area.

Section 040264: No significant notes.

PBTB material characteristics are listed in Appendix B.

E. Bituminous Treated Base (BTB)

Section 040266: Changes over (8/23) to State 406 mix Bituminous Treated Base (BTB).

Section 040267: Paved with State 406 BTB mix.

Section 040268: Paved with State 406 BTB mix. Concluded paving base section (8/23).

Information Not Readily Available.

Table 11: Bituminous Treated Base Aggregate Gradations.

F. Lean Concrete Base:

On August 10th, 1993, a Ross 12 yard concrete Bandit Plant was set up at the SE corner of I-10 and the Johnson Road overpass with the help of a Marco crane and a John Deere 710 backhoe. Production was determined by it's 10 yard Ross central mixer, 600 barrel split silos comprised of 400 barrels of cement and 200 barrels of fly ash. Belly dumps hauled in fine aggregate from the Hassayampa pit for storage on an AC pad installed at the plant site, end dumps hauled in course aggregate from the Pioneer pit, and the following equipment was mobilized.

- 1 Gomaco Model GP3000 paver w/4 lights
- 1 Gomaco Model 9500 Spreader/distributor
- 1 Gomaco TC-450 Power Curing Sprayer bridge assembly
- 1 water truck
- 1 John Deere backhoe
- 20 Jim Bond end-dump trucks

Placement started the evening of August 23 at station 5607+93 (040218) as the paver's first pass placed a 22' wide lane, 3'RT to 25'RT of centerline. The concrete mix being placed was extremely dry as a considerable amount of surface checking and dragging occurred. Hand finishing was used in an effort to achieve a smooth surface. In addition, the paver's automatic float was causing rutting at the slab edge. The paver was slowed down and water reducer was added to the mix at sta 5613+47. As this did not remedy the problem, the contractor changed his water regulating equipment at the batch plant from a 3" pump to a 4" calibrated pump. This significantly improved the mix as a smooth LCB layer was achieved from sta 5616+50.

Curing agent application started 2 hours after the first LCB was placed and some sprayer tips were noted to be plugged or misaligned. Inspectors had also noted that the paver had difficulty matching the rolled over PBTB edge. The right paver track experienced some slippage on the adjacent LCB while paving the second pass (3'RT to 19'LT of centerline) until pieces of rubber conveyor belt were placed under the track. LCB Paving finished August 31st. FWD testing was accomplished September 9th on the LCB sections.

Resultant ADOT lab tests of LCB cylinders found an average compressive strength of 625psi. Mix design and aggregate characteristics are shown in Table 12 and 13. Mix characteristics are displayed in Appendix B. Inspection of the outer edges of the cured and finished LCB in September evidenced several transverse cracks. An inventory of these cracks in listed in Table 14.

Table 12: LCB Aggregate Gradations.

Course Aggregate	Source: Palmer - ABC	LCB	Fine Aggregate	Source:
Sieve Size	% Passing		Sieve Size	% Passing
2"			No. 8	38
1 1/2"			No. 10	36
1"	100		No. 16	30
7/8"			No. 30	21
3/4"	89		No. 40	16
5/8"			No. 50	12
1/2"	62		No. 80	
3/8"	53		No. 100	8
No. 4	43		No. 200	6.2

Table 13: Lean Concrete Base Mix Design.

Material	Percent	Type	Weight lbs.	Miscel.
Cement		Type II	234.0	
Fly Ash		Cholla	50.0	Class F
Water			250.0	.88 w/c ratio
Course Agg.		ABC	3345	
		Unit Weight	144 pcf	
Water Reducer		WRDA-82		5.5 oz/cy
Air Entraining		Daravair-M		3.5 oz/cy

LCB Section Highlights:

Section 040217: Light rain caused that evening's sections to be refinished and recured. The additional curing rate averaged 1.07 gallons per 100 sq.ft (SHRP recommends 100 sq.ft./1 gallon).

Section 040218: Initial problems with surface checking and dragging.

Section 040219: Second day of LCB paving. The cure rig was adjusted and the automatic float was removed from the paver. Full width finishing was accomplished with a magnesium hand bull float, in addition, the burlap drag was removed to provide a "slick" finish. The resultant placement looked much better. A high area of LCB from sta 5659+20 to 5658+65, 2' right to 4' left of centerline, was bladed by Tanner as a patch was performed before PCCP placement. Finishers used a Sealtite CG-86 non-shrink grout to skin patch the LCB section.

Section 040220: After changing the water meter, this section had displayed a smooth finish. During the paving of the passing lane, at sta 5625+40, the paver stopped while a bad load of concrete was removed from the project. The section was ended with the paving header being dropped to meet the adjacent PBTB end.

Table 14: LCB Layer Transverse Cracking.

Section	Stations
040217	5666 +95 5669 +80 5671 +90
040218	5608 +28, +65 5609 +15, +40 5610 +25, +60 5611 +12, +45, +75 5612 +25, +75 5613 +40, +95 5614 +20, +55 5615 +25, +40, +75
040219	5657 +95 5659 +15, +75 5661 +67
040220	5616 +10, +60 5617 +15, +45, +85 5618 +15, +50, +85 5619 +25, +60 5620 +03, +40, +85 5621 +25, +45 5622 +00, +25, +65 5623 +00, +35, +67 5624 +00, +40, +95 5625 +50, +90 5626 +33

G. Portland Cement Concrete Pavement (PCCP) paving.

Three different PCCP mixes were used for the SHRP sections. Some of the doweled sections used a 900psi flexural strength mix (040214, 040222, 040218, 040220, 040224, and 040216), some doweled sections used a 550psi flexural strength mix with a maximum 1" aggregate (040215, 040223, 040219, 040217, 040221, 040213, 040266, 040267, and 040268), and the undoweled sections used a 550psi flexural strength State mix with a maximum 1 1/2" aggregate.

Concrete was produced by a drum type plant adjacent to I-10 and the Johnson Road overpass (see LCB section for plant details). The concrete consisted of Pioneer pit course aggregate, Hassayampa pit fine aggregate, Type II cement, Cholla Class F flyash, and potable water provided by the local town of Hopeville. In addition, W.R. Grace's WRDA-82 water reducer and Daravair-M air entraining was added to the batching operation. Tables 15 through 20 display concrete mix designs and aggregate gradation values. Material characteristics are displayed in Appendix B.

Equipment used for the pavement operation consisted of:

- 1 Gomaco Model GP3000 paver w/4 lights
- 1 Gomaco Model 9500 Spreader/distributor
- 1 Gomaco 182 Power Tine bridge assembly
- 1 Gomaco TC-450 Power Curing Sprayer bridge assembly
- 1 water truck
- 1 John Deere backhoe
- 10 Jim Bond 10-wheel end-dump trucks

During construction, fresh concrete at the mixing plant was used for preparing testing beams and cylinders. When sampling was required, a portion of the outgoing batch was emptied into a front end loader, traveled across the yard, and shoveled into beam and cylinder molds. The beams were vibrated with a hand held vibrating wand and the cylinders were consolidated using a vibrating table. Once consolidated and finished, the beams and cylinders were moved by hand into a temperature controlled trailer at the mixing plant site. The beams were allowed to cure 24 hours, stripped of their molds, and placed into a lime-water bath in the trailer until tested.

Flexural testing was performed using a testing machine set-up in the trailer at the plant site. The cylinders were transported, in their molds, to Western Technologies Testing laboratory in Phoenix after curing in the trailer for 48 hours. Once at WTI, the cylinders were removed from their molds and placed in a temperature controlled fog room until testing.

Table 15: SHRP 550 Mix Aggregate Gradations.

Course Aggregate	Source: Pioneer - #57	PCCP SHRP 550 Mix	Fine Aggregate	Source: Palmer - ASTM
Sieve Size	% Passing		Sieve Size	% Passing
2"			No. 8	89
1 1/2"			No. 10	87
1"	100		No. 16	77
7/8"			No. 30	54
3/4"	80		No. 40	38
5/8"			No. 50	23
1/2"	30		No. 80	
3/8"	12		No. 100	7
No. 4	2		No. 200	3.3

Table 16: SHRP SPS-2 550psi Mix Design.

Material	Percent	Type	Weight lbs.	Miscel.
Cement		Type II	400.0	
Fly Ash		Cholla	100.0	Class F
Water			232.0	.47 w/c ratio
Fine Agg.		ASTM	1285	
Course Agg.		3/4"	1939	#57 Pioneer
		Unit Weight	147 pcf	
Water Reducer		WRDA-82		25 oz/cy
Air Entraining		Daravair-M		2 oz/cy

Paving, of the SHRP sections started the evening of Tuesday, September 7 at sta 5740+86 heading WB with 550psi flexural concrete. Dowel baskets 10' or 12' wide with 1½" dowels were placed for 12.5" thick pavement and 1¼" dowels were placed for 11" thick pavement. Special concern was raised that baskets be securely nailed to the mat and that bars be liberally greased. Uncoated #5 rebar, ⅝" dia by 20" long (SHRP spec = 30"), were inserted mid-depth into the longitudinal centerline construction joint every 2.5 feet. PVC pipe was placed on the longitudinal tie bars so that curing compound would not inhibit bonding with the adjacent lane (SHRP requirement calls for longitudinal tie bars to be epoxy coated).

Table 17: SHRP SPS-2 900psi Mix Design.

Material	Percent	Type	Weight lbs.	Miscel.
Cement		Type II	811.1 ~~800.0~~	
Water			292.0	.36 w/c ratio
Fine Agg.	40%	ASTM	1207	
Course Agg.	60%	3/4"	1826	#57 Pioneer
		Unit Weight	153 pcf	
Water Reducer		WRDA-82		40 oz/cy
Air Entraining		Daravair-M		

Shoulder rumble strip grooving started at sta 5740+34 and progressed every 60 feet thereafter with grooves extending 7' transversely from the pavement's outer edge. Rumble strip areas were refinished after the tining operations (before curing).

Table 18: SHRP 900psi Mix Aggregate Gradations.

Course Aggregate	Source: Pioneer - #57	PCCP SHRP 900 Mix	Fine Aggregate	Source: Palmer - ASTM
Sieve Size	% Passing		Sieve Size	% Passing
2"			No. 8	89
1 1/2"			No. 10	87
1"	100		No. 16	77
7/8"			No. 30	54
3/4"	80		No. 40	38
5/8"			No. 50	23
1/2"	30		No. 80	
3/8"	12		No. 100	7
No. 4	2		No. 200	3.3

Pavement sawing was accomplished by Phoenix Concrete Cutting, Inc. with two "portable" hand saws and a sawing bridge (see Appendix A, photos). Stringline and paint marks were used to locate sawing locations. In contrast to the plans, the skewed random transverse joint (13'/15'/17'/15') spacing was laid out backwards as the paver was running against future traffic flow. Temperatures during cutting ranged from 85°F to 110°F.

The paving operation for Tuesday, September 14, was canceled due to a shortage of mixing water at Hopeville, AZ. A supply pump for their municipal supply broke down causing the municipal storage tank to be drained.

Deflection testing was started Tuesday, October 12th. PCCP concrete strength tests are noted in Tables 21 and 22, with material information displayed in Appendix B.

Table 19: ADOT State 550psi Mix Design.

Material	Percent	Type	Weight lbs.	Miscel.
Cement		Type II	400.0	
Fly Ash		Cholla	100.0	Class F
Water			225.0	.45 w/c ratio
Fine Agg.		ASTM	1311	
Course Agg. 1	60%	3/4"	1188	#57 Pioneer
Course Agg. 2	40%	1 1/2"	792	#4 Pioneer
		Unit Weight	149 pcf	
Water Reducer		WRDA-82		25 oz/cy
Air Entraining		Daravair-M		2 oz/cy

PCCP Section Highlights: (times noted in military format)

Section 040213: 8" thickness, 550psi, started at 22:55 (9/9) at sta 5686+95. The automatic tie bar inserter wasn't working, bars were inserted by hand. A void was noticed in the center of the slab at sta 5682+45 and was hand patched. A footprint was noticed in the slab about 2 feet in from the edge at sta 5682+18 and was patched. Ended section at 01:10 at sta 5681+95.

Section 040214. 8" thickness, 900psi, started paving at 01:10 (9/16) at sta 5600+25. The DGAB was watered prior to paving. Placement and finishing looks good. Ended section at 02:50 at sta 5595+25. A cold joint was installed at sta 5594+61 to end the day's production and finish the SHRP sections' traveling lane. Roping and sealing was done from sta 5633+30 to sta 5594+75 on Tuesday (9/21). Sawing operations began at 03:40 on Thursday (9/23) from sta 5594+60 to sta 5610+00 with joint widening accomplished from sta 5594+60 to sta 5657+40.

Section 040215: 11" thickness, 550psi, started at 02:12 (9/13) at sta 5649+45. Placement and finishing looked good. Number 5 dowel bars 20" long were being placed at the longitudinal

Table 20: State 550psi Mix Aggregate Gradations.

Course Aggregate	Source: Pioneer - #57 & #4	PCCP State 550 Mix	Fine Aggregate	Source: Palmer - ASTM
Sieve Size	% Passing		Sieve Size	% Passing
2"			No. 8	89
1 1/2"	100		No. 10	87
1"	73		No. 16	77
7/8"			No. 30	54
3/4"	47		No. 40	38
5/8"			No. 50	23
1/2"	16		No. 80	
3/8"	12		No. 100	7
No. 4	2		No. 200	3.3

center edge every 2½'. It was noted that operations stopped at several times due to lack of mix, but no significant delays were documented. Ended section at 05:55. A cold joint was installed at sta 5640+25 to end the day's production. Full depth sawing was accomplished (9/17) with 2 saws from sta 5650+10 to sta 5639+50. Two saws were added later in the day. On Sunday (9/19) widening of the longitudinal cuts occurred from sta 5640+00 to sta 5667+33. Early Monday (9/20) the sawing of transverse joints was proceeding from sta 5668+33 to 5633+30 with roping and sealing performed from sta 5668+33 to 5633+30. Sawing was accomplished on Tuesday (9/21) from sta 5612+03 to sta 5657+84. Sawing started at sta 5657+84 on Wednesday (9/22) and progressed to sta 5626+79. On Thursday (9/23) joint widening was accomplished from sta 5594+60 to sta 5657+40.

Section 040216: 11" thickness, 900psi, started on Monday (9/13) at 19:38 at sta 5639+70. The DGAB was watered prior to paving. The PCC mix was changed to the 900 psi flex mix - first several loads looked a bit stiff (water was added). Placing and finishing looked good with the cure averaging 100.14 sq.ft./gallon. Ended section at 21:34 at sta 5634+70. Full depth sawing was accomplished (9/17) with 2 saws from sta 5650+10 to sta 5639+50. Two saws were added later in the day. On Saturday, (9/18) longitudinal cuts from 5639+50 to 5630+00 were accomplished. On Sunday (9/19) widening of the longitudinal cuts occurred from sta 5640+00 to sta 5667+33. Early Monday (9/20) the sawing of transverse joints was proceeding from sta 5668+33 to 5633+30 with roping and sealing performed from sta 5668+33 to 5633+30. Sawing was accomplished on Tuesday (9/21) from sta 5612+03 to sta 5657+84. Sawing started at sta 5657+84 on Wednesday (9/22) and progressed to sta 5626+79. On Thursday (9/23) joint

widening was accomplished from sta 5594+60 to sta 5657+40.

Section 040217: 8" thickness, 550psi, started at 04:47 (9/10) at sta 5672+10. LCB protected from paver tracks by rubber mats. The LCB was watered prior to paving. Longitudinal tie bars are ADOT spec 24" long instead of SHRP spec 30". Paving proceeded smoothly, mix and finish looks good. Ended section at 06:21 at sta 5667+10. Earlier in the day a power broom was used to clean this section and a wax based bond breaker was applied (1gal/150sq.ft.). A cold joint was installed at sta 5665+75 to end the day's production. Sawing was started at 6:40 am EB sta 5695+22. On Sunday (9/19) widening of the longitudinal cuts occurred from sta 5640+00 to sta 5667+33. Early Monday (9/20) the sawing of transverse joints was proceeding from sta 5668+33 to 5633+30 with roping and sealing performed from sta 5668+33 to 5633+30.

Section 040218: 8" thickness, 900psi, started Wednesday (9/15) at 19:52 at sta 5614+80, centerline to 22' right. The LCB was shot with a curing/sealer compound 24 hours prior to paving. Paver stopped at 20:01 for 15 minutes at sta 5614+50 to repair a blown hydraulic hose on the paver. Some of the hydraulic oil leaked onto the slab from sta 5614+95 to 5614+50. Mix was running at 87°F. Ended section at 21:45 at sta 5609+80. Sawing was accomplished on Tuesday (9/21) from sta 5612+03 to sta 5657+84 as roping and sealing was done from sta 5633+30 to sta 5594+75. Sawing operations began at 03:40 on Thursday (9/23) from sta 5594+60 to sta 5610+00 with joint widening accomplished from sta 5594+60 to sta 5657+40.

Section 040219: 11" thickness, 550psi, started at 7:30pm (9/12) at sta 5664+15, from center line to 22' right of centerline. The LCB was sealed Friday morning 9/10, and again Saturday night 9/11. The LCB was watered prior to paving. Dowel baskets had their ends trimmed to accommodate the reduction of lane width from 14' to 12' over the transition. Trucks loading PCC into the spreader were riding on the passing lane of the LCB slab. Tining was 1/2 hour behind paver with a curing coat being applied about 1 hour behind paver. Paver speed was noted at 3'/minute with PCC temperature noted at 85°F, slump at 2". The edge at sta 5658+67 was .86' thin (.06' short of plan) at the area where the LCB had been patched. The paver had stopped several times due to lack of mix after which it would back up and continue. The overall paver speed was increased to 6'/min. The paver had also stopped for about 7 minutes due to problems with the placer. On Sunday (9/19) widening of the longitudinal cuts occurred from sta 5640+00 to sta 5667+33. Early Monday (9/20) the sawing of transverse joints was proceeding from sta 5668+33 to 5633+30 with roping and sealing performed from sta 5668+33 to 5633+30. Sawing was accomplished on Tuesday (9/21) from sta 5612+03 to sta 5657+84. Sawing started at sta 5657+84 on Wednesday (9/22) and progressed to sta 5626+79.

Section 040220: 11" thickness, 900psi, started paving at 01:45 (9/14) at sta 5625+30. Mix and finish looked good. Ended section at 04:10. Cold joint installed at sta 5616+72 to end day's

production. Saw cutting started at 01:00 at sta 5640+20. On Sunday (9/19) deep sawing was accomplished from sta 5616+80 to 5633+00. Sawing was accomplished on Tuesday (9/21) from sta 5612+03 to sta 5657+84 as roping and sealing was done from sta 5633+30 to sta 5594+75. On Thursday (9/23) joint widening was accomplished from sta 5594+60 to sta 5657+40.

Section 040221: 8" thickness, 550psi, started at 02:00 (9/10) at sta 5679+60. Earlier in the day (11:45), Tanner had sprayed 30 gallons of SS1 at sta 5677+00 to 5675+50 on the travel lane PBTB after a blade smoothed out a rough area. Mix looks good, operation and finishing running smoothly. Ended section at 03:36 at sta 5674+60.

Section 040222: 8" thickness, 900psi, started at 22:43 (9/15) at sta 5607+30. The PBTB was watered prior to paving. Placement and finishing looks good. Ended section at 00:35 at sta 5602+30. Roping and sealing was done from sta 5633+30 to sta 5594+75 on Tuesday (9/21). Sawing operations began at 03:40 on Thursday (9/23) from sta 5594+60 to sta 5610+00 with joint widening accomplished from sta 5594+60 to sta 5657+40.

Section 040223: 11" thickness, 550psi, started at 23:32 (9/12). The PBTB was watered prior to paving. Transverse dowel bar placement looks good - 1½" dia, 18" long, 11 foot baskets, placed on 1' centers. Placement and finishing looks good. Ended section at 01:25 at sta 5651+50. On Sunday (9/19) widening of the longitudinal cuts occurred from sta 5640+00 to sta 5667+33. Early Monday (9/20) the sawing of transverse joints was proceeding from sta 5668+33 to 5633+30 with roping and sealing performed from sta 5668+33 to 5633+30. Sawing was accomplished on Tuesday (9/21) from sta 5612+03 to sta 5657+84. Sawing started at sta 5657+84 on Wednesday (9/22) and progressed to sta 5626+79. On Thursday (9/23) joint widening was accomplished from sta 5594+60 to sta 5657+40.

Section 040224: 11" thickness, 900psi, started at 22:36 (9/13) at sta 5632+50. Truck haul crossing across the LCB slab had sealer washed off as protective dirt was removed prior to paving - sta 5626+85 to sta 5626+55. Slump went from 1" to 3" at sta 5627+30. Paving and finishing looked good with PCC temperature at 87°F and slump at 1". Again, paving operation was interrupted occasionally due to lack of mix. It was noted that the left edge depth checks have been continually running short. Ended section at 00:47. On Saturday (9/18) longitudinal cuts from 5639+50 to 5630+00 were accomplished. On Sunday (9/19) full depth sawing was accomplished from sta 5616+80 to 5633+00. Sawing was accomplished on Tuesday (9/21) from sta 5612+03 to sta 5657+84 as roping and sealing was done from sta 5633+30 to sta 5594+75. Sawing started at sta 5657+84 on Wednesday (9/22) and progressed to sta 5626+79. On Thursday (9/23) joint widening was accomplished from sta 5594+60 to sta 5657+40.

Section 040262: 8" thickness, 550 psi, started on Thursday (9/9) at 20:35. The mix looked good as paving and finishing progressed smoothly. Tining and curing running about 150' behind paver. Earlier, #8 dowels were epoxied into drilled holes in the cold joint header. Slump running 2¾" - water in mix being reduced. Paving stopped at sta 5688+02 (22:25 to 22:45) to change mix to 1" aggregate design State 550psi mix. This mix first hit the ground at sta 5687+95 with the first few loads being wet (water was reduced in the mix). Widening of the longitudinal construction joint was accomplished Wednesday (9/22) from sta 5690+00 to sta 5712+03 with full depth longitudinal cutting occurring from sta 5687+75 to sta 5705+48.

Section 040263: 8" thickness, 550psi, started at 04:38 (9/9) at sta 5704+00. The PBTB was watered prior to paving. Tining and curing was running about ½ - 1 hour behind the paver. Ended section at 06:30 at sta 5695+69 with the installation of a cold joint to end the production day. Saw cutting started at 7:00am and finished at 4:30pm. Widening of the longitudinal construction joint was accomplished Wednesday (9/22) from sta 5690+00 to sta 5712+03 with full depth longitudinal cutting occurring from sta 5687+75 to sta 5705+48.

Section 040264: 11" thickness, 550psi, started at 23:40 (9/8) at sta 5711+49. Progress stopped due to belt problem on feeder - restarted 00:25. Plant problems with water - 8cy batch receiving 206 gallons instead of 181 - slump at 4", air at 12-13%. Trucks alternating from dry to wet as plant stabilizes. Finishers falling behind 100-200' with increased required efforts. Ended section at 03:36. Widening of the longitudinal construction joint was accomplished Wednesday (9/22) from sta 5690+00 to sta 5712+03.

Section 040265: 11" thickness, 550psi, paved on Wednesday (9/8) started at 20:15 at station 5719+20 . The DGAB was watered prior to paving. The left slab edge was hand finished due to problems with the auto float (sta 5719+20 to 5716+00). The longitudinal centerline edge required hand patching of depressions caused by automatic tie bar insertion (impacts caused concrete to liquify and drop slightly). Dowels were #5's at 24" long. On Saturday (9/18) transverse cuts from sta 5740+86 to sta 5712+03 were accomplished.

Section 040266: The span saw blade blew out at sta 5724+38 causing a wider sawed joint requiring epoxy patching with Sikador 32 Hi-Mod LPL. On Saturday (9/18) transverse cuts from sta 5740+86 to sta 5712+03 were accomplished. Deep cutting was accomplished from sta 5718+71 to 5732+91 on Thursday (9/23).

Section 040267: At sta 5729+91 sparks came out of the cut as the blade was ruined: possibly compromising the dowels. On Saturday (9/18) transverse cuts from sta 5740+86 to sta 5712+03 were accomplished. Deep cutting was accomplished from sta 5718+71 to 5732+91 on Thursday (9/23).

Section 040268: On (9/18) transverse cuts were made from sta 5740+86 to sta 5712+03.

Passing Lane Sections: Paving started on Friday (9/17) at sta 5740+86 (040268, 040267, 040266, and 040265) at 19:20 from centerline left 16 feet. SHRP personnel were not present.

Section 040213P: 8" thickness, 550psi mix (9/20).

Section 040214P: 8" thickness, 900psi mix. Paving operations ending at 04:40 (9/23) at sta 5594+60. Paving operation periodically stopped throughout the evening due to delays with concrete delivery.

Section 040215P: 11" thickness, 550psi mix (9/21). Paver speed was 6'/minute, slump at 1½", and mix temperature was 83°F.

Section 040216P: 11" thickness, 900psi mix (9/22). The mix changed to 900psi at 01:20 at sta 5640+33; slump ran 2½". Some segregation was noted with the 900 mix, while tining was reported as good.

Section 040217P: 8" thickness, 550psi mix (9/21). At sta 5671+75 the paver had to stop to allow concrete to dry up a bit; adjustment was made to reduce water afterwards.

Section 040218P: 8" thickness, 900psi mix (9/22).

Section 040219P: 11" thickness, 550psi mix. Production for the day stopped at 07:20 (9/21) at sta 5657+84.

Section 040220P: 11"thickness, 900psi mix, started at sta 5626+76 at 19:00 (9/22) with mix segregation from the placer still presenting some concerns. At 22:00, the plant went down for about 20 minutes with the paver stopping at sta 5617+33. The LCB had been double cured and all baskets nailed down and greased. Holes in LCB from coring were filled with sand.

Section 040221P: 8" thickness, 550psi mix (9/21). A problem with paver track slippage caused about 5' of tines to be obliterated on the adjacent slab at sta 5680+25. It was also noted that the 10 wheel dump trucks were running on the existing unsealed slab.

Section 040222P: 8" thickness, 900psi mix (9/23).

Section 040223P: 11" thickness, 550psi mix, started at 5657+84 at 21:37 (9/21) westbound. Concrete temperature was noted at 82°F with a paver speed of 8.5'/minute.

Section 040224P: 11" thickness, 900psi mix. Paving ended at sta 5626+79 at 06:24 (9/22), with tining finishing at 07:06 and curing shortly thereafter. It was reported that the plant had run short of aggregate.

Section 040262P: 8" thickness, 550psi mix (9/20).

Section 040263P: 8" thickness, 550psi mix (9/20).

Section 040264P: 11" thickness, 550psi mix, started at 19:00 (Monday, 9/20) from sta 5712+04 with a 35' ski on the matching edge of the paver. Tining and curing looking good averaging 99.96sq.ft./gallon.

Section 040265P: 11" thickness, 550psi State mix with un-doweled skewed joints. Concrete was running 83°F. Paving ended at 04:30 (9/18) at sta 5712+04 with tining and curing, averaging 81sq.ft./gallon, looking good.

Section 040266P: 12.5" thickness, 550psi mix with doweled perpendicular joints (9/18).

Section 040267P: 11" thickness, 550psi mix with dowels and perpendicular joints (9/17).

Section 040268P: 8" thickness, 550psi mix with doweled and perpendicular joints (9/17). The paving crew installed a "hood" at the end of the placer conveyor to help prevent segregation. Some slight problems were noted with matching the new longitudinal centerline elevation with the driving lane pavement.

Table 21: SPS-2 900psi Mix; Flexural PCCP Strength.

Section	14 Day Flexural	14 Day Cylinder	14 Day Core	28 Day Flexural	28 Day Cylinder	28 Day Core
040214	810	6140	5870	840	6670	6570
040222	945	6210/6070 /6560	6170	950	6880/6720/ 6540	6720
040218	860	6170/6540 /6260	6170	925	6490/6280 7150	6840
040220	810	6350	6800	840	6700	7100
040224	805	5870/6010 /5910	6430	825	6790/6560 /6490	6330
040216	790	6100	6170	825	6460	6960
Mean Stnd. Dev	837 58 - 7%	6183 219 - 4%	6268 315 - 5%	868 55 - 6%	6654 228 - 3%	6753 277 - 4%

Table 22: SPS-2 550psi Mix; Flexural PCCP Strength.

Section	14 Day Flexural	14 Day Cylinder	14 Day Core	28 Day Flexural	28 Day Cylinder	28 Day Core
040215	580	3800	3570	685	4330	3780
040223			4310			4570
040219	573	3840	4380	680	4670	4810
040217			3580			3910
040221						4580
040213	560	3400	3930/3910	630	4420	4530
040253	580	3080	3740	670	3910	4510
040254			3550			
040255	615	3110	4070	645	4070	3500
040256	515	2900	4330	545	3640	4780
040257			3770			4000
040258	570		4620	580		4740
040259	520	3270	4130	625	3940	4920
Mean Stnd. Dev	564 33 - 6%	3343 361 - 11%	3992 348 - 9%	633 49 - 8%	4140 352 - 9%	4385 465 - 11%

H. - Asphalt Pavement:

At both ends of the SHRP project, sections of asphalt pavement (040260, 040261) were included by ADOT. Both sections were identical with 4" of DGAB topped with 8½" of AC. On October 5, 1993, the DGAB was bladed to remove miscellaneous debris as the following equipment was mobilized.

- 1 Blaw Knox Paver
- 1 Cat 851B Pickup machine
- 2 DynaPac CC50 15 ton Steel Wheel Rollers
- 1 DynaPac CC21 20 ton Rubber Tired Roller
- 7 Belly Dumps
- 2 140G Cat Blades
- 3 International water trucks

Tanner started paving the bottom lift of the western 040261 section with a 406 AC mix on Wednesday, October 6 at 7:30am. Two 16' wide and one 14' wide "ribbons would be placed 3 inches thick. The east 040260 section was then placed, but was rained on heavily before fully compacted. As this eastern section exhibited cracking, it was rejected by ADOT personnel as paving ended for the day.

Subsequent testing of the cracked 406 mix showed problems with gradation and oil. Paving resumed Monday, October 11, with material temperature noted at 290°F in the windrows. Two skis were used on the paver to maintain grade: 1- 30' ski and 1-10' ski. After breakdown with the pneumatic roller, the first steel wheel roller compacted with 4 vibratory passes followed by 1 static pass as the second steel wheel roller ran 4 static passes with 1 final wipe out pass after the mat cooled down.

Section 040260 material was removed by a 966 Cat Loader on Monday, Oct 18 before 406 mix was replaced that afternoon. Asphalt paving was completed Oct 20th. Mix and material characteristics are displayed in Appendix B.

I. - Miscellaneous:

Slopes on the SHRP sections were constructed of 3 even layers of millings. Each layer was primed/tacked with SS1 50/50 shot at .08, placed by 2 140G Cat blades and a John Deere 762B scraper, and compacted by an Ingersol-Rand CB534 tandem steel wheel roller with a ten wheel water truck supplying water as needed. The last lift was finished October 19th with a final fog coat applied October 21st.

WIM: Installation of the International Road Dynamics, Inc. (IRD) bending plate Weigh-In-Motion (WIM) started October 1st with the grinding of section 040266 to a 3.0"/mile average. Saw cutting for loops and cables, pad and cabinet installation, and associated tasks were overseen by an IRD representative. An IRD Model AS400 Axle Sensor and a Hennessy Model HP554426 cabinet was used for this installation. As some difficulty was encountered, calibration of the WIM was completed January 24, 1994.

Striping and lines were painted on October 21 as Type G raised reflectors were installed to open the SHRP sections to traffic on Thursday, October 28th, 1993 with the entire completed project being accepted January 27, 1994.

VI. Summary:

Subgrade: With earth moving, compaction, and watering equipment specifically mobilized for this operation, the subgrade was accomplished quite well with all compaction tests meeting or exceeding specified density.

Dense Graded Aggregate Base: Some initial problems occurred with too course a mix being placed. Subsequent addition of sand and reprocessing resulted in proper densities. PBTB base areas were primed as directed and areas moistened before PCCP laydown.

Lean Concrete Base: Initial problems with the mix and the automatic float caused mat defects that resulted in grout patching and significant hand finishing. After installation of a new plant water meter and removal of the automatic float, the LCB mat proceeded smoothly.

Permeable Asphalt Treated Base: The SHRP test section area proceeded fairly smoothly, but frustration was experienced in the transition areas. SHRP specifies that PBTB should not be "daylighted" at any point, but the nature of the transition area caused some confusion as to what detail was needed. Filter fabric wrap around length was significantly short, project wide, which could lead to soil intrusion at a later date.

Transverse and Edge Drainage: Aside from the fact that transverse drains were installed perpendicular rather than at an angle, this operation went smoothly. Throughout the entire project, however, filter fabric fell short of the requirement to wrap around the PBTB mat.

Portland Cement Concrete Pavement: After getting the "bugs" out of the paver from the LCB paving, this operation went fairly smooth. PCCP mix was slow coming at periodic times throughout the paving operation, but not to the point of causing notable delays. On one occasion the paver blew a hydraulic hose to one of it's vibrator spuds causing hydraulic fluid to spew on the PCCP mat. The distributor blew a hydraulic hose also causing a twenty minute delay in paver movement. Throughout placement of the 11" thick sections, PCCP mix was placed at the center of the paver at about a 12' width. The extreme 2'-3' outer edges of the mat had it's material placed solely by the paver's auger system. This process caused a rolling of the material and a slight delay of homogeneous placement.

VII. Recommendations:

Several operations show an opportunity to provide improvement for future SPS-2 projects. Transition areas seemed to present the most difficulty for material and equipment. Instead of using tapers in these transition areas, perhaps more abrupt section termination would be more beneficial to expediency and cost.

Both longitudinal and transition drains seemed to fall short on their length of filter fabric needed to wrap around the PBTB layer. More specific details in plan sheets and preconstruction conferences would help to eliminate this situation from occurring in the future.

In general, this SHRP project proceeded quite successfully. Enthusiasm on behalf of ADOT and the contractor contributed to all involved putting in that "extra" effort to facilitate this international program. As all construction projects will have unforeseen minor delays and breakdowns, time spent early in details, equipment inspections, and calibrations will yield timely benefits once a project starts.

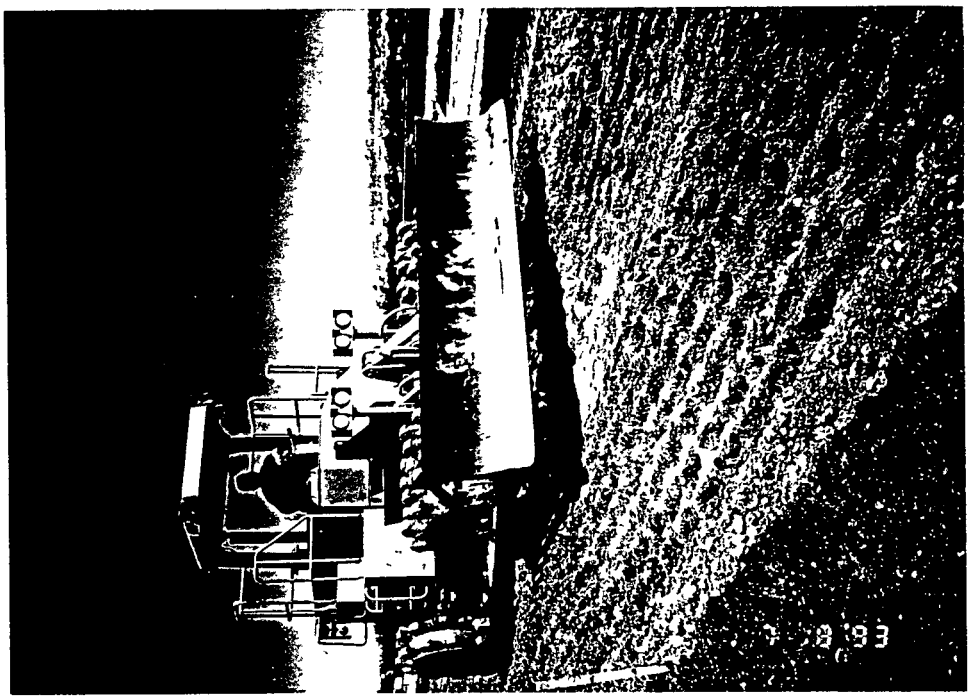
VIII. Appendices:

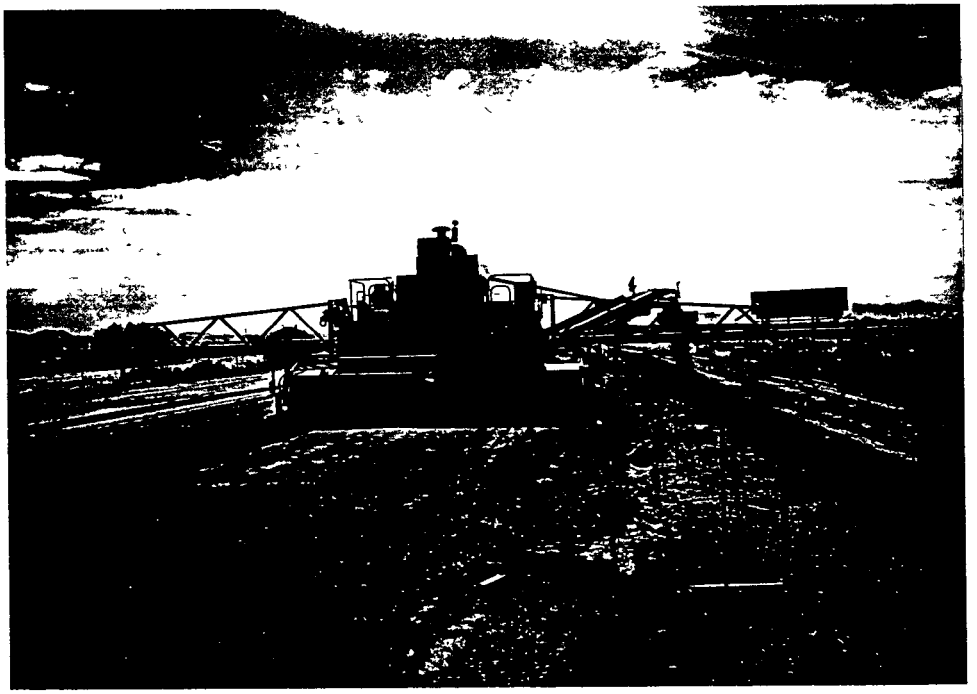
A. Project Photographs:

B. Material Properties:

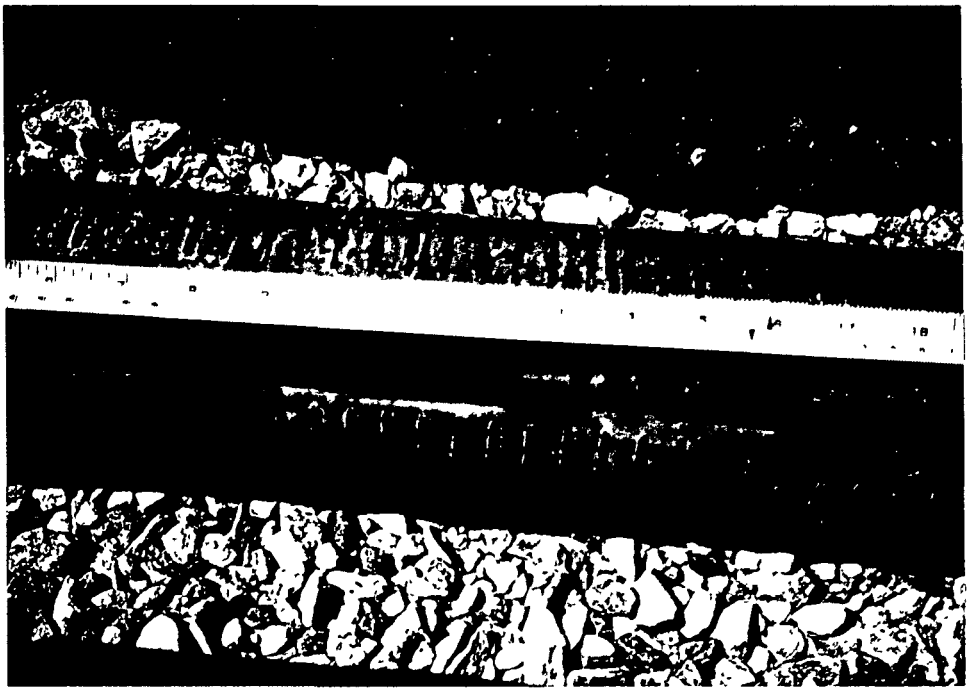
C. Elevation and Survey Data:

D. Construction Data Sheets:



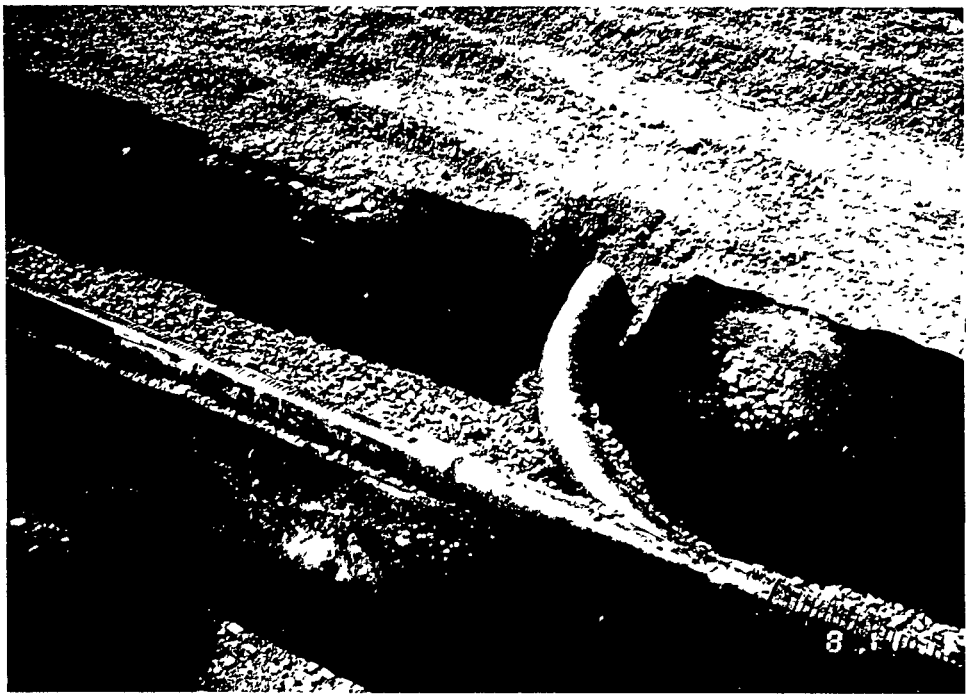


Subgrade Compactor and Trimmer

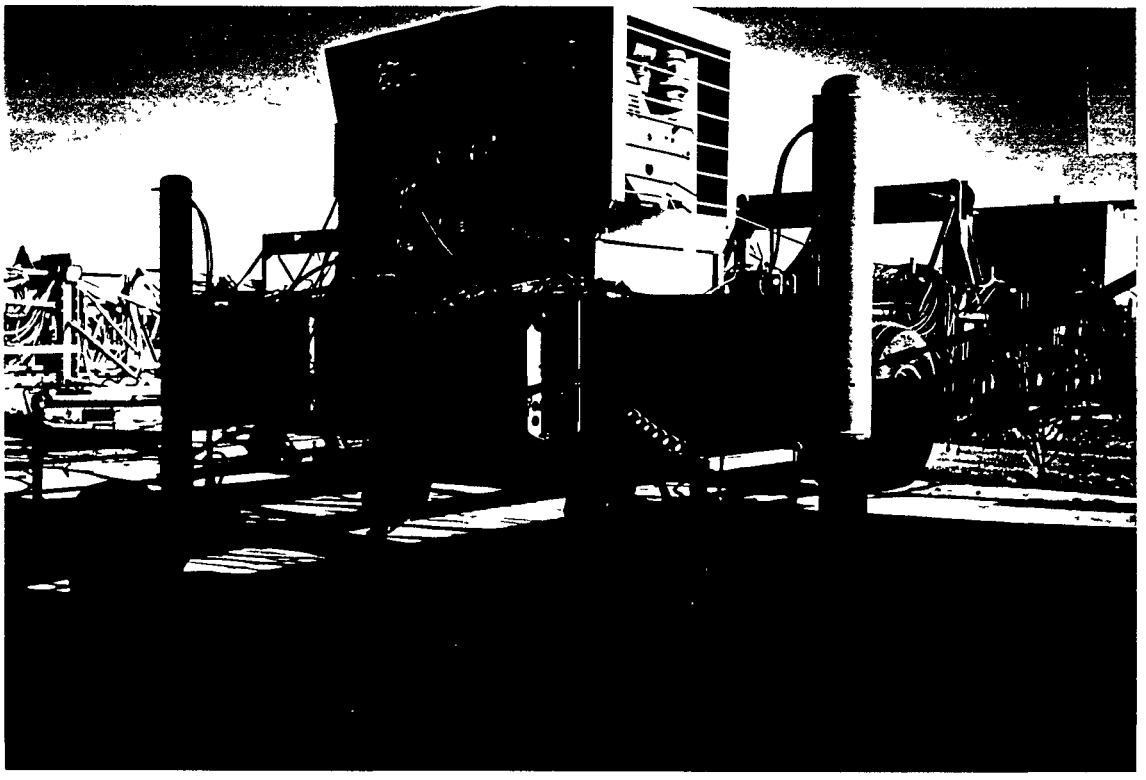


Edge Drain Trenching Unit and ATED Pipe

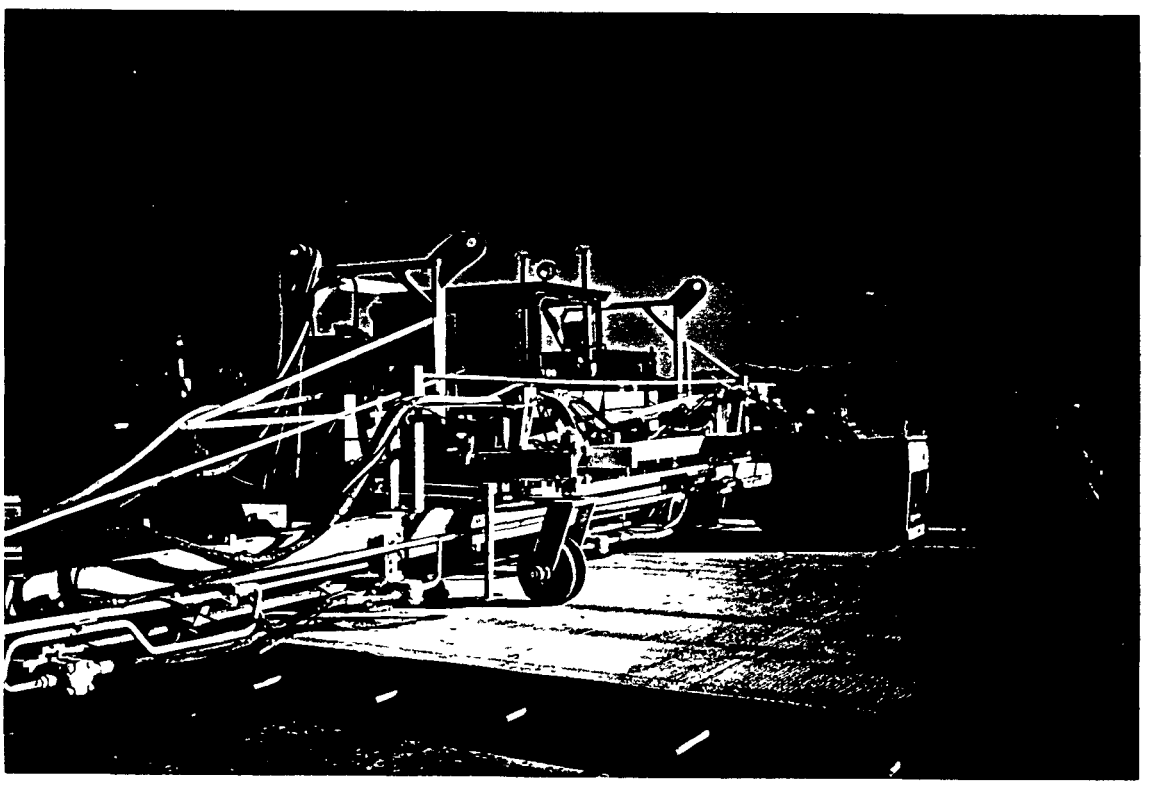
Transverse Drains: Before and After Installation



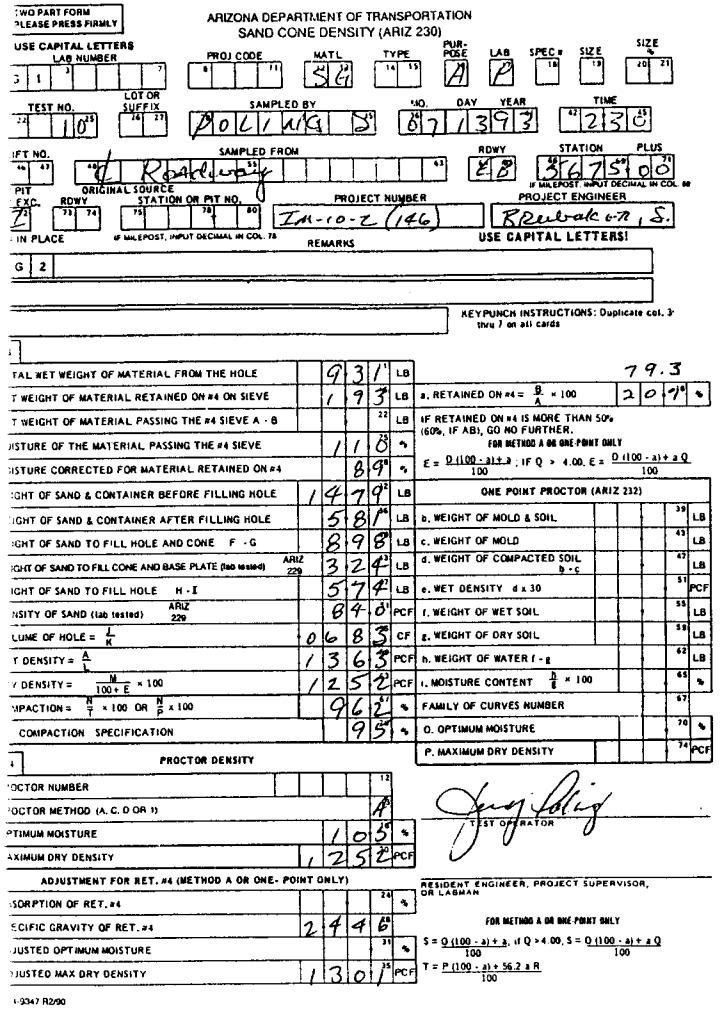
Edge Drain Outlet Detail and PBTB Paving



PCCP Paving: Paver Unit and Tining Bridge



PCCP Paving: Curing Bridge and Saw Cutting Units



ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

TWO PART FORM
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USE CAPITAL LETTERS

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MATL: SG
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LAB: P
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SIZE:
SIZE %:
TEST NO.: 10
LOT OR SUFFIX:
SAMPLED BY: POLIWG S
NO.: 07
DAY: 13
YEAR: 93
TIME: 2330
LIFT NO.:
SAMPLED FROM: C Roadway
RDWY: E B
STATION: 367500
PLUS:
PIT / EXC. / IN PLACE:
ORIGINAL SOURCE:
STATION OR PIT NO.:
IF MILEPOST, INPUT DECIMAL IN COL. 78
PROJECT NUMBER: IM-10-2(146)
PROJECT ENGINEER: RRubalcaba, S.
REMARKS
USE CAPITAL LETTERS!

G 2

KEYPUNCH INSTRUCTIONS: Duplicate col. 3 thru 7 on all cards

79.3

TAL WET WEIGHT OF MATERIAL FROM THE HOLE	9311	LB
T WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	193	LB
T WEIGHT OF MATERIAL PASSING THE #4 SIEVE A - B		LB
ISTURE OF THE MATERIAL PASSING THE #4 SIEVE	118	%
ISTURE CORRECTED FOR MATERIAL RETAINED ON #4	89	%
GHT OF SAND & CONTAINER BEFORE FILLING HOLE	14791	LB
GHT OF SAND & CONTAINER AFTER FILLING HOLE	5818	LB
GHT OF SAND TO FILL HOLE AND CONE F - G	8988	LB
GHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3243	LB
GHT OF SAND TO FILL HOLE H - I	5741	LB
NSITY OF SAND (Lab tested) ARIZ 229	84.0	PCF
LUME OF HOLE = L/K	0683	CF
T DENSITY = A/L	136.3	PCF
Y DENSITY = M/(100+E) x 100	125.2	PCF
MPACTION = N/T x 100 OR N/P x 100	96.2	%
COMPACTION SPECIFICATION	95	%

a. RETAINED ON #4 = B/A x 100 : 20.7 %

IF RETAINED ON #4 IS MORE THAN 50% (60%, IF AB), GO NO FURTHER.

FOR METHOD A OR ONE-POINT ONLY

E = D(100 - a) + a / 100 ; IF Q > 4.00, E = D(100 - a) + aQ / 100

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL		LB
c. WEIGHT OF MOLD		LB
d. WEIGHT OF COMPACTED SOIL b - c		LB
e. WET DENSITY d x 30		PCF
f. WEIGHT OF WET SOIL		LB
g. WEIGHT OF DRY SOIL		LB
h. WEIGHT OF WATER f - g		LB
i. MOISTURE CONTENT h/g x 100		%
FAMILY OF CURVES NUMBER		
O. OPTIMUM MOISTURE		%
P. MAXIMUM DRY DENSITY		PCF

TEST OPERATOR

G 4 PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A, C, D OR 1)	A
OPTIMUM MOISTURE	10.5 %
MAXIMUM DRY DENSITY	125.2 PCF

ADJUSTMENT FOR RET. #4 (METHOD A OR ONE- POINT ONLY)

SORPTION OF RET. #4		%
SCIFIC GRAVITY OF RET. #4	2.446	
JUSTED OPTIMUM MOISTURE		%
JUSTED MAX DRY DENSITY	130.1	PCF

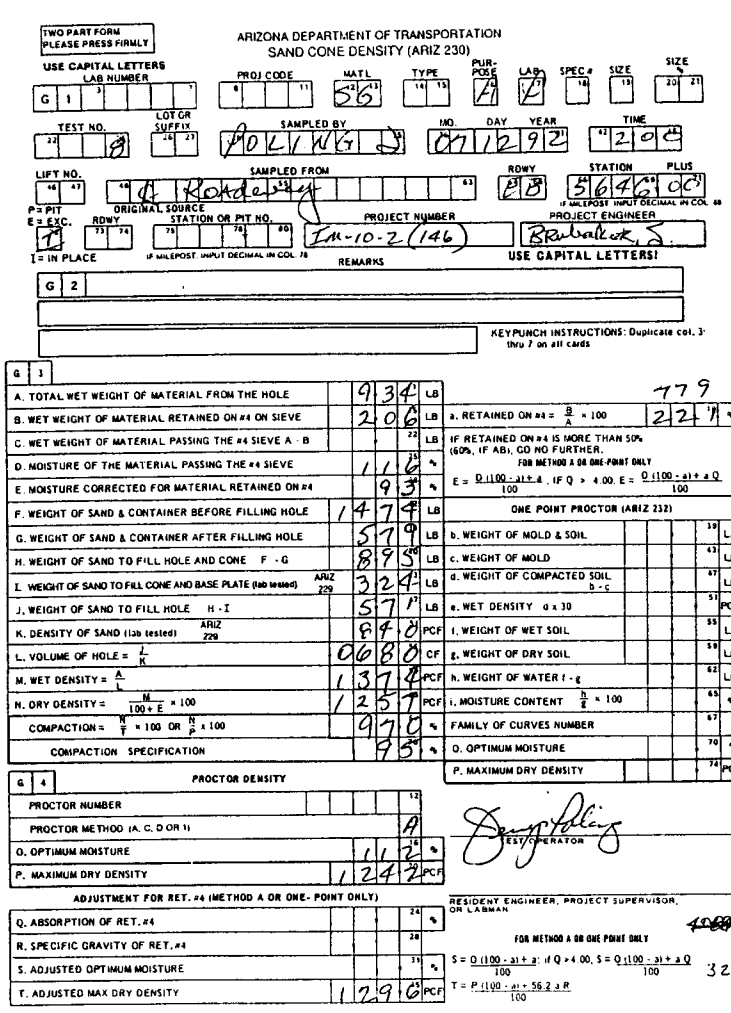
RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN

FOR METHOD A OR ONE-POINT ONLY

S = D(100 - a) + a / 100 , if Q > 4.00, S = D(100 - a) + aQ / 100

T = P(100 - a) + 56.2 a R / 100

44-9347 R2/90



ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

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USE CAPITAL LETTERS

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TYPE:
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LAB: P
SPEC #:
SIZE:
SIZE %:
TEST NO.: 8
LOT OR SUFFIX:
SAMPLED BY: POLIWG S
NO.: 07
DAY: 12
YEAR: 92
TIME: 2040
LIFT NO.:
SAMPLED FROM: C Roadway
RDWY: E B
STATION: 564600
PLUS:
P = PIT / E = EXC. / I = IN PLACE:
ORIGINAL SOURCE:
STATION OR PIT NO.:
IF MILEPOST, INPUT DECIMAL IN COL. 78
PROJECT NUMBER: IM-10-2(146)
PROJECT ENGINEER: BRubalcaba, S.
REMARKS
USE CAPITAL LETTERS!

G 2

KEYPUNCH INSTRUCTIONS: Duplicate col. 3 thru 7 on all cards

77.9

A. TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	9341	LB
B. WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	206	LB
C. WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A - B		LB
D. MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	116	%
E. MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	93	%
F. WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14774	LB
G. WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	5790	LB
H. WEIGHT OF SAND TO FILL HOLE AND CONE F - G	8895	LB
I. WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3243	LB
J. WEIGHT OF SAND TO FILL HOLE H - I	5717	LB
K. DENSITY OF SAND (Lab tested) ARIZ 229	84.0	PCF
L. VOLUME OF HOLE = L/K	0680	CF
M. WET DENSITY = A/L	137.4	PCF
N. DRY DENSITY = M/(100+E) x 100	125.7	PCF
COMPACTION = N/T x 100 OR N/P x 100	97.0	%
COMPACTION SPECIFICATION	95	%

a. RETAINED ON #4 = B/A x 100 : 22.7 %

IF RETAINED ON #4 IS MORE THAN 50% (60%, IF AB), GO NO FURTHER.

FOR METHOD A OR ONE-POINT ONLY

E = D(100 - a) + a / 100 , IF Q > 4.00, E = D(100 - a) + aQ / 100

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL		LB
c. WEIGHT OF MOLD		LB
d. WEIGHT OF COMPACTED SOIL b - c		LB
e. WET DENSITY d x 30		PCF
f. WEIGHT OF WET SOIL		LB
g. WEIGHT OF DRY SOIL		LB
h. WEIGHT OF WATER f - g		LB
i. MOISTURE CONTENT h/g x 100		%
FAMILY OF CURVES NUMBER		
O. OPTIMUM MOISTURE		%
P. MAXIMUM DRY DENSITY		PCF

TEST OPERATOR

G 4 PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A, C, D OR 1)	A
O. OPTIMUM MOISTURE	16.5 %
P. MAXIMUM DRY DENSITY	124.2 PCF

ADJUSTMENT FOR RET. #4 (METHOD A OR ONE- POINT ONLY)

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R. SPECIFIC GRAVITY OF RET. #4		
S. ADJUSTED OPTIMUM MOISTURE		%
T. ADJUSTED MAX DRY DENSITY	129.6	PCF

RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN

~~129.6~~

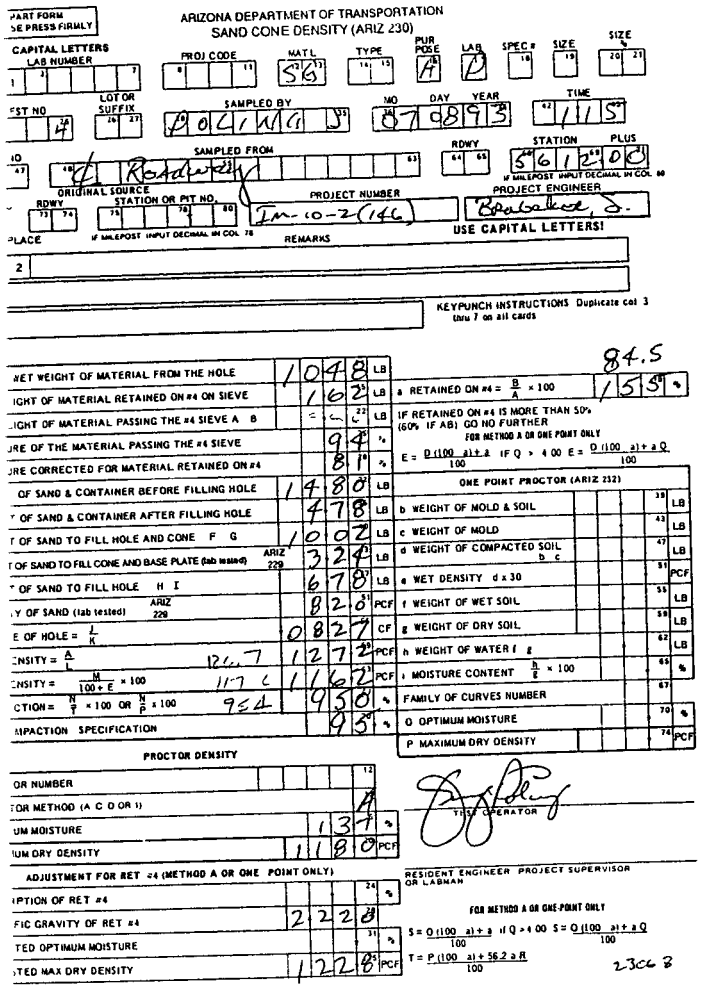
FOR METHOD A OR ONE POINT ONLY

S = D(100 - a) + a / 100 , if Q > 4.00, S = D(100 - a) + aQ / 100

T = P(100 - a) + 56.2 a R / 100

32.89 D

44-9347 R2/90



ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

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ID | SAMPLED FROM: I Rosalind | RDWY | STATION: 56120 | PLUS
IF MILEPOST INPUT DECIMAL IN COL 60

ORIGINAL SOURCE | STATION OR PIT NO. | PROJECT NUMBER: Im-10-2(146) | PROJECT ENGINEER: Rosalind, S.
RDWY | IF MILEPOST INPUT DECIMAL IN COL 78 | USE CAPITAL LETTERS!

PLACE | REMARKS
2

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

84.5

WET WEIGHT OF MATERIAL FROM THE HOLE	10488	LB	a RETAINED ON #4 = B/A x 100 = 1559 %
IGHT OF MATERIAL RETAINED ON #4 ON SIEVE	1629	LB	IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
IGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB	FOR METHOD A OR ONE POINT ONLY
URE OF THE MATERIAL PASSING THE #4 SIEVE	94	%	E = D(100 a)+a IF Q > 4.00 E = D(100 a)+aQ / 100
URE CORRECTED FOR MATERIAL RETAINED ON #4	81	%	
OF SAND & CONTAINER BEFORE FILLING HOLE	14800	LB	ONE POINT PROCTOR (ARIZ 232)
OF SAND & CONTAINER AFTER FILLING HOLE	4778	LB	b WEIGHT OF MOLD & SOIL
F SAND TO FILL HOLE AND CONE F G	10102	LB	c WEIGHT OF MOLD
OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3240	LB	d WEIGHT OF COMPACTED SOIL b c
OF SAND TO FILL HOLE H I	6780	LB	e WET DENSITY d x 30
Y OF SAND (lab tested) ARIZ 229	8210	PCF	f WEIGHT OF WET SOIL
E OF HOLE = L/K	08279	CF	g WEIGHT OF DRY SOIL
ENSITY = A/L	12727	PCF	h WEIGHT OF WATER f g
ENSITY = M/(100+E) x 100 (126.7)	(117.6)	PCF	i MOISTURE CONTENT h/g x 100
CTION = N/T x 100 OR N/P x 100 (92.4)	9350	%	FAMILY OF CURVES NUMBER
MPACTION SPECIFICATION	95	%	Q OPTIMUM MOISTURE
			P MAXIMUM DRY DENSITY

PROCTOR DENSITY

OR NUMBER		
FOR METHOD (A C D OR 1)	A	
UM MOISTURE	13.7	%
IUM DRY DENSITY	118.0	PCF

TEST OPERATOR

ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

IPTION OF RET #4		%
FIC GRAVITY OF RET #4	2.228	
TED OPTIMUM MOISTURE		%
TED MAX DRY DENSITY	122.8	PCF

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

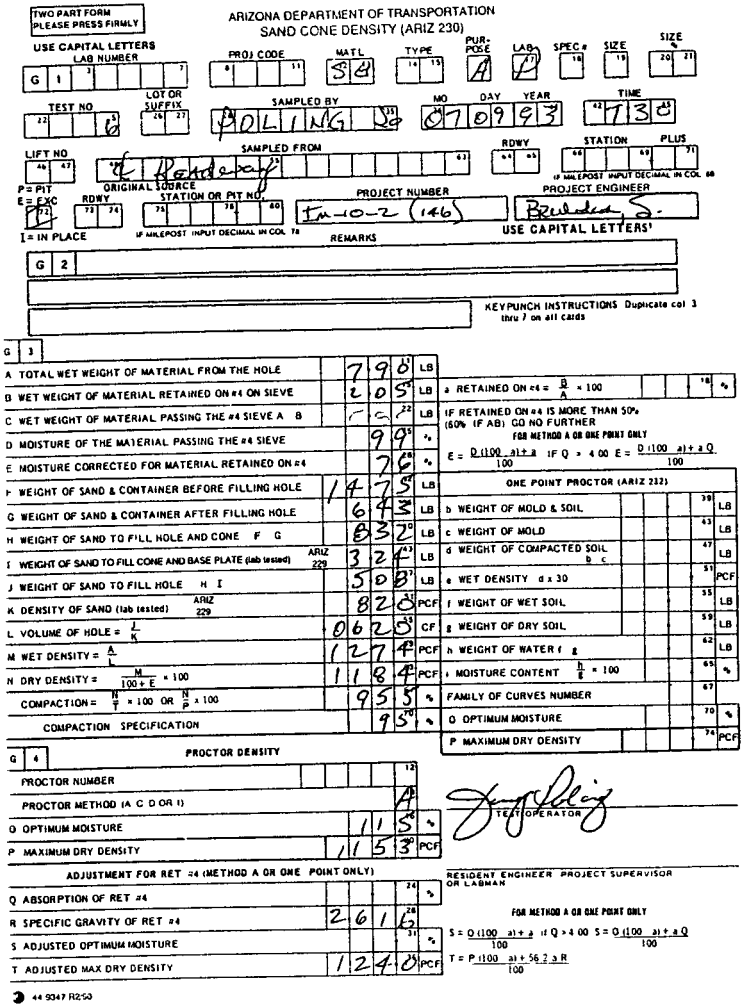
FOR METHOD A OR ONE-POINT ONLY

S = Q(100 a)+a if Q > 4.00 S = Q(100 a)+aQ / 100

T = P(100 a)+56.2 a R / 100

2366

47 R250



TWO PART FORM
PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS
LAB NUMBER: G 1

PROJ CODE | MATL: SG | TYPE | PUR POSE: A | LAB: D | SPEC # | SIZE | SIZE

TEST NO: 16 | LOT OR SUFFIX | SAMPLED BY: POLING | MO: 07 | DAY: 09 | YEAR: 93 | TIME: 13 3

LIFT NO | SAMPLED FROM: I Rosalind | RDWY | STATION: | PLUS
IF MILEPOST INPUT DECIMAL IN COL 60

P = PIT
E = EXC | ORIGINAL SOURCE | STATION OR PIT NO. | PROJECT NUMBER: Im-10-2 (146) | PROJECT ENGINEER: Rosalind S.
RDWY | IF MILEPOST INPUT DECIMAL IN COL 78 | USE CAPITAL LETTERS!
I = IN PLACE | REMARKS
G 2

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

G 3

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	7908	LB	a RETAINED ON #4 = B/A x 100 = %
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	2055	LB	IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB	FOR METHOD A OR ONE POINT ONLY
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	99	%	E = D(100 a)+a IF Q > 4.00 E = D(100 a)+aQ / 100
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	76	%	
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14755	LB	ONE POINT PROCTOR (ARIZ 232)
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	6433	LB	b WEIGHT OF MOLD & SOIL
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	8322	LB	c WEIGHT OF MOLD
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3244	LB	d WEIGHT OF COMPACTED SOIL b c
J WEIGHT OF SAND TO FILL HOLE H I	5083	LB	e WET DENSITY d x 30
K DENSITY OF SAND (lab tested) ARIZ 229	8208	PCF	f WEIGHT OF WET SOIL
L VOLUME OF HOLE = L/K	06258	CF	g WEIGHT OF DRY SOIL
M WET DENSITY = A/L	12774	PCF	h WEIGHT OF WATER f g
N DRY DENSITY = M/(100+E) x 100	11844	PCF	i MOISTURE CONTENT h/g x 100
COMPACTION = N/T x 100 OR N/P x 100	9555	%	FAMILY OF CURVES NUMBER
COMPACTION SPECIFICATION	95	%	Q OPTIMUM MOISTURE
			P MAXIMUM DRY DENSITY

G 4

PROCTOR DENSITY

PROCTOR NUMBER		
PROCTOR METHOD (A C D OR 1)	A	
Q OPTIMUM MOISTURE	11.5	%
P MAXIMUM DRY DENSITY	115.3	PCF

TEST OPERATOR

ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2.616	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	124.0	PCF

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE POINT ONLY

S = Q(100 a)+a if Q > 4.00 S = Q(100 a)+aQ / 100

T = P(100 a)+56.2 a R / 100

44 9347 R250

TWO PART FORM
PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER	PROJ CODE	MATL	TYPE	PURPOSE	LAB	SPEC #	SIZE	SIZE %
		56		A	P			

TEST NO.	LOT OR SUFFIX	SAMPLED BY	MO.	DAY	YEAR	TIME
3		POLING S.	07	07	93	1030

LIFT NO.	SAMPLED FROM	RDWY	STATION	PLUS
	E Roadway		540350	50

IF MILEPOST, INPUT DECIMAL IN COL. 60

P = PIT
E = EXC.
I = IN PLACE

ORIGINAL SOURCE	RDWY	STATION OR PIT NO.	PROJECT NUMBER	PROJECT ENGINEER
I			IM-10-2(146)	Benbaker S.

IF MILEPOST, INPUT DECIMAL IN COL. 78

REMARKS

USE CAPITAL LETTERS!

G 2 Subgrade of SHRPS Section

KEYPUNCH INSTRUCTIONS: Duplicate col. 3 thru 7 on all cards

79.5

A. TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	8194	LB
B. WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	1688	LB
C. WEIGHT OF MATERIAL PASSING THE #4 SIEVE A - B		LB
D. MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	110	%
E. MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	908	%
F. WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14652	LB
G. WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	5872	LB
H. WEIGHT OF SAND TO FILL HOLE AND CONE F - G	8783	LB
I. WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3247	LB
J. WEIGHT OF SAND TO FILL HOLE H - I	5536	LB
K. DENSITY OF SAND (lab tested) ARIZ 229	868	PCF
L. VOLUME OF HOLE = $\frac{J}{K}$	0647	CF
M. WET DENSITY = $\frac{A}{L}$	1266	PCF
N. DRY DENSITY = $\frac{M}{100+E} \times 100$	1161	PCF
COMPACTION = $\frac{N}{T} \times 100$ OR $\frac{N}{P} \times 100$	954	%
COMPACTION SPECIFICATION	95	%

a. RETAINED ON #4 = $\frac{B}{A} \times 100$ = 20.5 %

IF RETAINED ON #4 IS MORE THAN 50% (60%, IF AB), GO NO FURTHER.

FOR METHOD A OR ONE-POINT ONLY

$E = \frac{D(100-a)+a}{100}$; IF Q > 4.00, $E = \frac{D(100-a)+aQ}{100}$

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL		LB
c. WEIGHT OF MOLD		LB
d. WEIGHT OF COMPACTED SOIL b - c		LB
e. WET DENSITY d x 30		PCF
f. WEIGHT OF WET SOIL		LB
g. WEIGHT OF DRY SOIL		LB
h. WEIGHT OF WATER f - g		LB
i. MOISTURE CONTENT $\frac{h}{g} \times 100$		%
FAMILY OF CURVES NUMBER		
O. OPTIMUM MOISTURE		%
P. MAXIMUM DRY DENSITY		PCF

PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A, C, D OR 1)	A
O. OPTIMUM MOISTURE	11.5 %
P. MAXIMUM DRY DENSITY	115.3 PCF

Jerry Poling
TEST OPERATOR

ADJUSTMENT FOR RET. #4 (METHOD A OR ONE-POINT ONLY)

RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN

Q. ABSORPTION OF RET. #4	%
R. SPECIFIC GRAVITY OF RET. #4	2.61.6
S. ADJUSTED OPTIMUM MOISTURE	%
T. ADJUSTED MAX DRY DENSITY	122.1 PCF

FOR METHOD A OR ONE-POINT ONLY

$S = \frac{Q(100-a)+a}{100}$; if Q > 4.00, $S = \frac{Q(100-a)+aQ}{100}$

$T = \frac{P(100-a)+56.2aR}{100}$

44-9347 R2/90

TWO PART FORM
PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER	PROJ CODE	MATL	TYPE	PURPOSE	LAB	SPEC #	SIZE	SIZE %
G 1		56		A	P			

TEST NO.	LOT OR SUFFIX	SAMPLED BY	MO.	DAY	YEAR	TIME
1		POLING S.	07	15	93	1030

LIFT NO.	SAMPLED FROM	RDWY	STATION	PLUS
	E Roadway		570467	

IF MILEPOST, INPUT DECIMAL IN COL. 60

P = PIT
E = EXC.
I = IN PLACE

ORIGINAL SOURCE	RDWY	STATION OR PIT NO.	PROJECT NUMBER	PROJECT ENGINEER
I			IM-10-2(146)	Benbaker S.

IF MILEPOST, INPUT DECIMAL IN COL. 78

REMARKS

USE CAPITAL LETTERS!

G 2 STA: 5708+00 W.B. Ran into Lighter Mat. with Colichae. Proctor may be a little heavy in that area.

KEYPUNCH INSTRUCTIONS: Duplicate col. 3 thru 7 on all cards

79.2

A. TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	9211	LB
B. WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	1923	LB
C. WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A - B		LB
D. MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	1088	%
E. MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	888	%
F. WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14899	LB
G. WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	5916	LB
H. WEIGHT OF SAND TO FILL HOLE AND CONE F - G	8983	LB
I. WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3247	LB
J. WEIGHT OF SAND TO FILL HOLE H - I	5747	LB
K. DENSITY OF SAND (lab tested) ARIZ 229	843	PCF
L. VOLUME OF HOLE = $\frac{J}{K}$	0683	CF
M. WET DENSITY = $\frac{A}{L}$	1348	PCF
N. DRY DENSITY = $\frac{M}{100+E} \times 100$	1237	PCF
COMPACTION = $\frac{N}{T} \times 100$ OR $\frac{N}{P} \times 100$	952	%
COMPACTION SPECIFICATION	95	%

a. RETAINED ON #4 = $\frac{B}{A} \times 100$ = 20 %

IF RETAINED ON #4 IS MORE THAN 50% (60%, IF AB), GO NO FURTHER.

FOR METHOD A OR ONE-POINT ONLY

$E = \frac{D(100-a)+a}{100}$; IF Q > 4.00, $E = \frac{D(100-a)+aQ}{100}$

ONE POINT PROCTOR (ARIZ 232)

b. WEIGHT OF MOLD & SOIL		LB
c. WEIGHT OF MOLD		LB
d. WEIGHT OF COMPACTED SOIL b - c		LB
e. WET DENSITY d x 30		PCF
f. WEIGHT OF WET SOIL		LB
g. WEIGHT OF DRY SOIL		LB
h. WEIGHT OF WATER f - g		LB
i. MOISTURE CONTENT $\frac{h}{g} \times 100$		%
FAMILY OF CURVES NUMBER		
O. OPTIMUM MOISTURE		%
P. MAXIMUM DRY DENSITY		PCF

PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A, C, D OR 1)	A
O. OPTIMUM MOISTURE	10.5 %
P. MAXIMUM DRY DENSITY	125.2 PCF

Jerry Poling
TEST OPERATOR

ADJUSTMENT FOR RET. #4 (METHOD A OR ONE-POINT ONLY)

RESIDENT ENGINEER, PROJECT SUPERVISOR, OR LABMAN

Q. ABSORPTION OF RET. #4	%
R. SPECIFIC GRAVITY OF RET. #4	
S. ADJUSTED OPTIMUM MOISTURE	%
T. ADJUSTED MAX DRY DENSITY	130.1 PCF

FOR METHOD A OR ONE-POINT ONLY

$S = \frac{Q(100-a)+a}{100}$; if Q > 4.00, $S = \frac{Q(100-a)+aQ}{100}$

$T = \frac{P(100-a)+56.2aR}{100}$

44-9347 R2/90

ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

LAB NUMBER | PROJ CODE 3483 | MATL 48 | TYPE 02 | PUR POSE A | LAB P | SPEC # | SIZE | SIZE %

TEST NO | LOT OR SUFFIX | SAMPLED BY WILLIAMS | MO 02 DAY 23 YEAR 93 | TIME 0730

FT NO | SAMPLED FROM STOCKPILE | RDWY | STATION | PLUS

P = PIT, E = EXC, I = IN PLACE | ORIGINAL SOURCE | STATION OR PIT NO. PALMERS | PROJECT NUMBER JOB-10-2 (196) | PROJECT ENGINEER S BRUBAKER

USE CAPITAL LETTERS!

REMARKS: FOR LCB PAVING

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

% OVERSIZE ARIZ 201 | COARSE FACTOR 009056 (no punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3				
2½				
2				
1½				
1				
¾	117	11	100	100
½	295	27	100	91-100
⅜	100	9	89	
#4	83	7	62	
#8	296	3	53	
#4	477		46	
Total	1043		43	

WT PASS #4 SPLIT | FINE SIEVE FACTOR 075638 (no punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS
#8	67	5	38	35-55
#10	22	2	36	
#16	23	6	30	
#30	25	9	21	
#40	67	5	16	
#50	48	4	12	
#100	59	4	8	
#200	30	2		
→200	05			
Total	485		62	60-80
Elutri ation	82			

Dry Weight

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90: NP | SPECS 0-3

Abrasion (A B C D) T 96 | # 100 Revolutions | # 500 Revolutions

Absorption H_2O AASHTO T 85 | Specific Gravity SSD | Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np) | Total Sample Weight (W_s) (np) | Fractured Faces FF = $\frac{W_f}{W_s} \times 100$ ARIZ 212

Wet Weight (W) (np): 5724 | Dry Weight (D) (np): 5667 | Moisture Content = $\frac{W-D}{D} \times 100$ T 255: 1.0

FLAKINESS INDEX ARIZ 233

ph ARIZ 236 or 237 | Resistivity (ohm-cm) ARIZ 236 | Soluable Salts (PPM) ARIZ 237

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100: 6.2 | NECESSARY FOR ALL FA & CA

WHITE ☐ YELLOW ☐ BLUE ☐

1 ● 44-0353 Rev 91

RECEIVED DATE | TEST OPERATOR AND DATE | SUPERVISOR AND DATE

SEE BACK ALSO

ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

LAB NUMBER | PROJ CODE 3483 | MATL 48 | TYPE 02 | PUR POSE A | LAB P | SPEC # | SIZE | SIZE %

TEST NO | LOT OR SUFFIX | SAMPLED BY STEIGEN | MO 09 DAY 09 YEAR 93 | TIME 0630

LIFT NO | SAMPLED FROM STOCKPILE | RDWY | STATION | PLUS

P = PIT, E = EXC, I = IN PLACE | ORIGINAL SOURCE | STATION OR PIT NO. PALMERY | PROJECT NUMBER H-29360 1C | PROJECT ENGINEER S BRUBAKER

USE CAPITAL LETTERS!

REMARKS: FOR LCB PAVING

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

4669 / 1.018

% OVERSIZE ARIZ 201 | COARSE FACTOR 0.0714 (100 punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3				
2½				
2				
1½			100	
1		100	91-100	
¾	115	99		
½	280	63		
⅜	100	54		
#4	96	46		
#8	307			
#4	460		43	
Total	1073			

WT PASS #4 SPLIT | FINE SIEVE FACTOR 069792 (no punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS
#8	77	5	38	35-55
#10	22	2	36	
#16	78	5	31	
#30	133	10	21	
#40	65	5	16	
#50	52	4	12	
#100	64	4	8	
#200	34	2		
→200	10			
Total	525		64	60-80
Elutri ation	92			

Dry Weight

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90: NP | SPECS 0-3

Abrasion (A B C D) T 96 | # 100 Revolutions | # 500 Revolutions

Absorption H_2O AASHTO T 85 | Specific Gravity SSD | Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np) | Total Sample Weight (W_s) (np) | Fractured Faces FF ARIZ 212

Wet Weight (W) (np): 1628 | Dry Weight (D) (np): 1617 | Moisture Content = $\frac{W-D}{D} \times 100$ T 255: 1.8

FLAKINESS INDEX ARIZ 233

ph ARIZ 236 or 237 | Resistivity (ohm-cm) ARIZ 236 | Soluable Salts (PPM) ARIZ 237

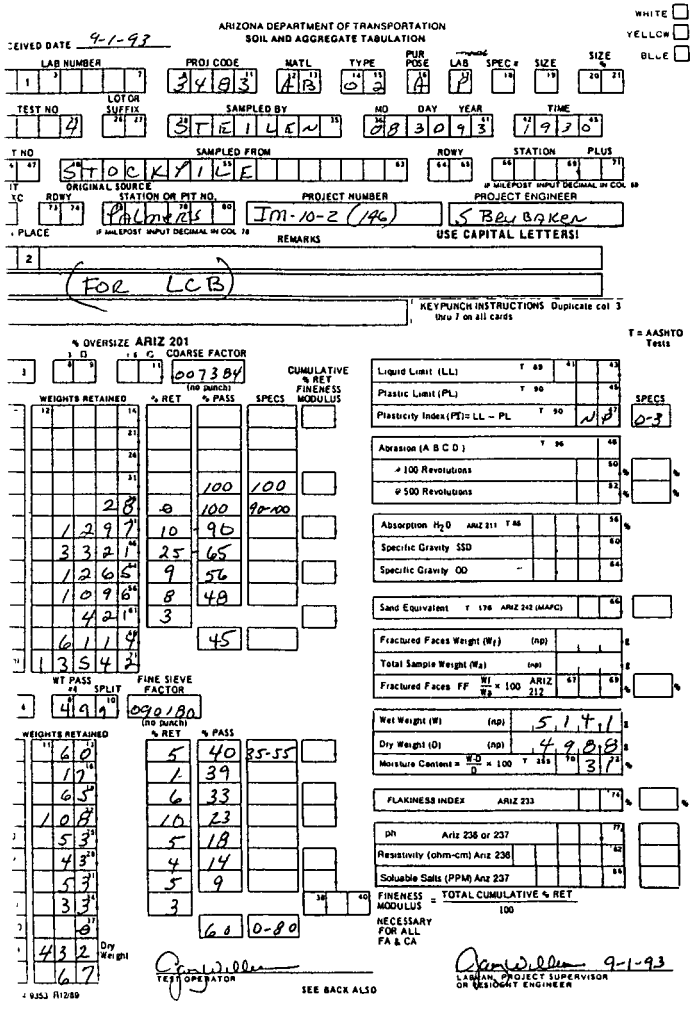
FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100 | NECESSARY FOR ALL FA & CA

WHITE ☐ YELLOW ☐ BLUE ☐

1 ● 44-0353 Rev 91

RECEIVED DATE | TEST OPERATOR AND DATE | SUPERVISOR AND DATE: 8-18-93

SEE BACK ALSO



ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

WHITE ☐ YELLOW ☐ BLUE ☐

RECEIVED DATE 9-1-93

LAB NUMBER | PROJ CODE 3483 | MATL AB | TYPE 02 | PUR POSE A | LAB B | SPEC # | SIZE | SIZE %

TEST NO 4 | LOT OR SUFFIX | SAMPLED BY STEILEN | MO 08 | DAY 30 | YEAR 93 | TIME 1930

T NO | SAMPLED FROM STOCKYARD | ROWY | STATION | PLUS
IT ORIGINAL SOURCE
XC ROWY | STATION OR PIT NO. PALOMAS | PROJECT NUMBER IM-10-2 (146) | PROJECT ENGINEER S BELBAKER
PLACE (IF MILEPOST INPUT DECIMAL IN COL 78) REMARKS USE CAPITAL LETTERS!

2 (FOR LCB)

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

% OVERSIZE ARIZ 201 | COARSE FACTOR 007384 (no punch) | CUMULATIVE % RET FINENESS MODULUS

WEIGHTS RETAINED	% RET	% PASS	SPECS
		100	100
28	0	100	90-100
129	10	90	
321	25	65	
126	9	56	
109	8	48	
42	3		
611		45	
1354			

WT PASS #4 SPLIT 499 | FINE SIEVE FACTOR 090180 (no punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS
60	5	40	35-55
17	1	39	
65	6	33	
108	10	23	
53	5	18	
43	4	14	
53	5	9	
33	3		
0		6.0	0-8.0
432 Dry Weight			
67			

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90 | NP | SPECS 0-3

Abrasion (A B C D) T 96 | @ 100 Revolutions | @ 500 Revolutions

Absorption H_2O ARIZ 211 T 85 | Specific Gravity SSD | Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np) | Total Sample Weight (W_s) (np) | Fractured Faces FF $\frac{W_f}{W_s} \times 100$ ARIZ 212

Wet Weight (W) (np) 5174 | Dry Weight (D) (np) 4908 | Moisture Content = $\frac{W-D}{D} \times 100$ T 265 | 37

FLAKINESS INDEX ARIZ 233

pH Ariz 236 or 237 | Resistivity (ohm-cm) Ariz 236 | Soluble Salts (PPM) Ariz 237

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100 — NECESSARY FOR ALL FA & CA

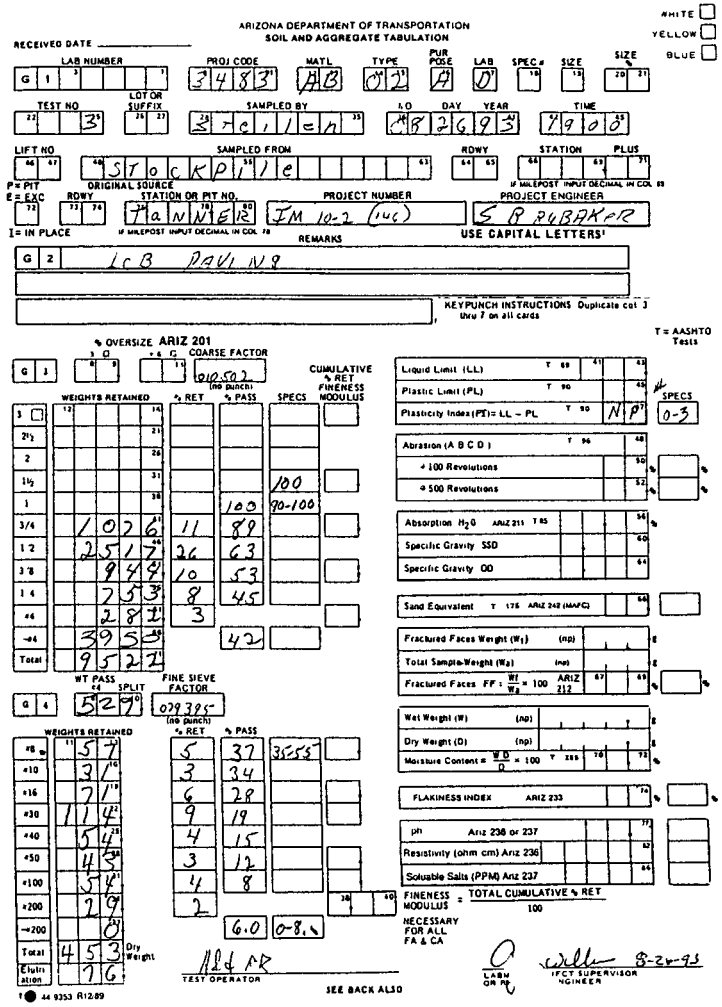
T = AASHTO Tests

TEST OPERATOR

LAB MAN, PROJECT SUPERVISOR OR RESIDENT ENGINEER 9-1-93

SEE BACK ALSO

44 9353 R12/89



ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

WHITE ☐ YELLOW ☐ BLUE ☐

RECEIVED DATE

G LAB NUMBER | PROJ CODE 3483 | MATL AB | TYPE 02 | PUR POSE A | LAB D | SPEC # | SIZE | SIZE %

TEST NO 3 | LOT OR SUFFIX | SAMPLED BY STOCKPILE | MO 08 | DAY 26 | YEAR 93 | TIME 1900

LIFT NO | SAMPLED FROM STOCKPILE | ROWY | STATION | PLUS
P = PIT ORIGINAL SOURCE
E = EXC ROWY | STATION OR PIT NO. TANNER | PROJECT NUMBER IM 10-2 (146) | PROJECT ENGINEER S R BAKER
I = IN PLACE (IF MILEPOST INPUT DECIMAL IN COL 78) REMARKS USE CAPITAL LETTERS!

G 2 LCB DAVIS

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

% OVERSIZE ARIZ 201 | COARSE FACTOR 010502 (no punch) | CUMULATIVE % RET FINENESS MODULUS

WEIGHTS RETAINED	% RET	% PASS	SPECS
		100	
1067	11	89	
251	26	63	
94	10	53	
75	8	45	
28	3		
395		42	
952			

G 4 WT PASS #4 SPLIT 529 | FINE SIEVE FACTOR 029385 (no punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS
57	5	37	35-55
31	3	34	
71	6	28	
114	9	19	
54	4	15	
45	3	12	
54	4	8	
29	2		
0		6.0	0-8.0
453 Dry Weight			
76 Elutriation			

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90 | NP | SPECS 0-3

Abrasion (A B C D) T 96 | @ 100 Revolutions | @ 500 Revolutions

Absorption H_2O ARIZ 211 T 85 | Specific Gravity SSD | Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np) | Total Sample Weight (W_s) (np) | Fractured Faces FF = $\frac{W_f}{W_s} \times 100$ ARIZ 212

Wet Weight (W) (np) | Dry Weight (D) (np) | Moisture Content = $\frac{W-D}{D} \times 100$ T 265

FLAKINESS INDEX ARIZ 233

pH Ariz 236 or 237 | Resistivity (ohm cm) Ariz 236 | Soluble Salts (PPM) Ariz 237

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100 — NECESSARY FOR ALL FA & CA

T = AASHTO Tests

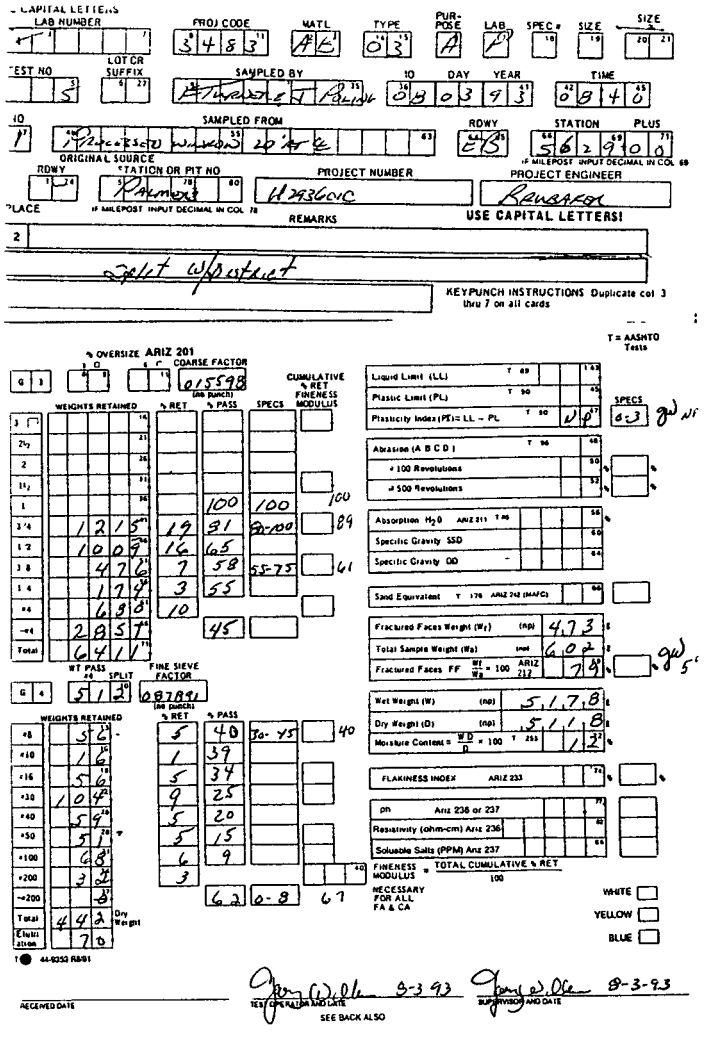
TEST OPERATOR

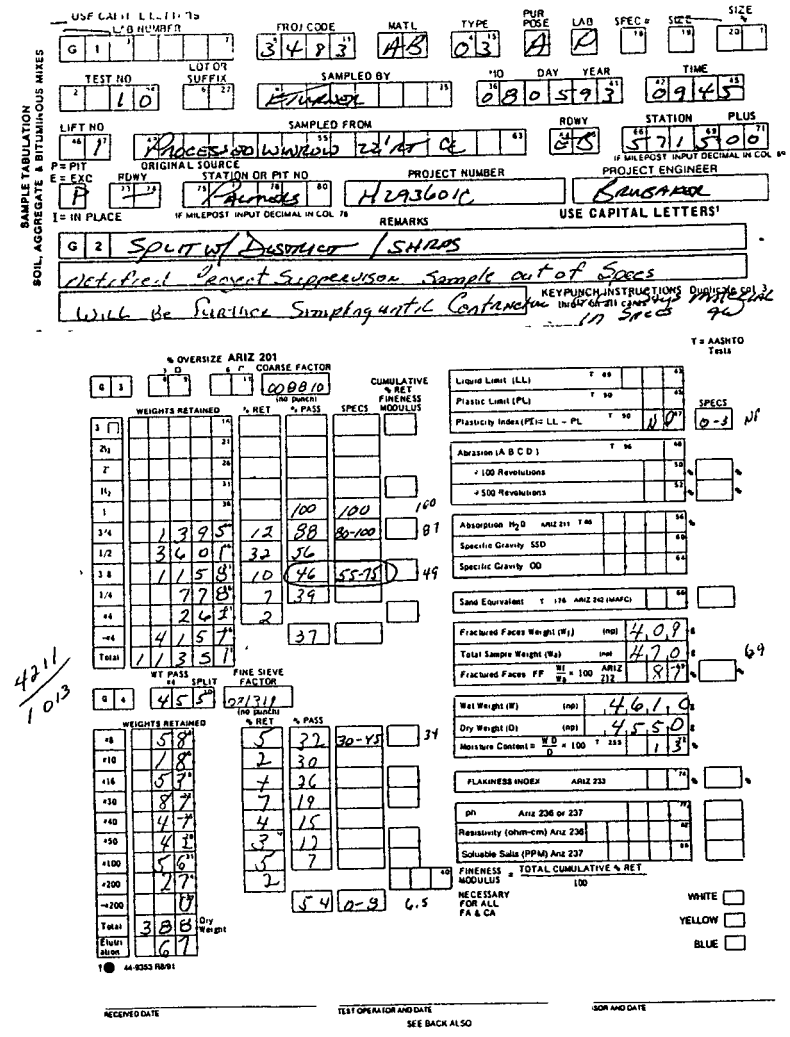
LABM OR RE

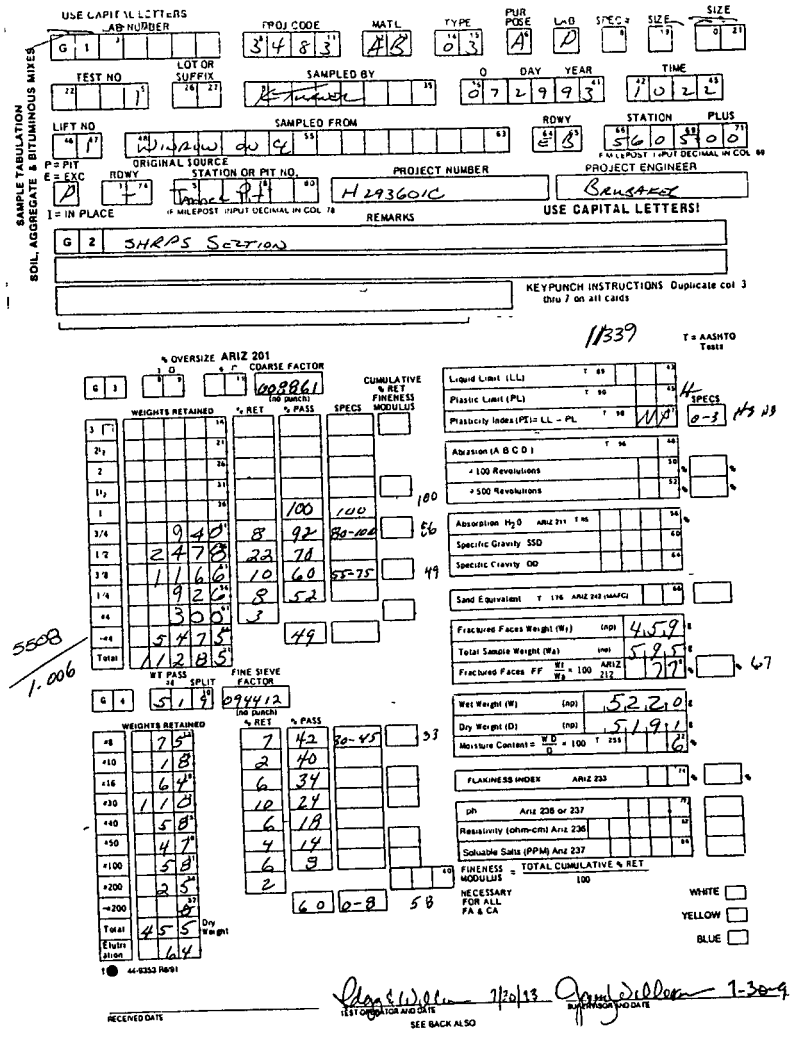
IFCT SUPERVISOR NGINEER 8-20-93

SEE BACK ALSO

44 9353 R12/89


SAMPLE TABULATION
SOIL, AGGREGATE & BITUMINOUS MIXES
USE CAPITAL LETTERS
LAB NUMBER
PROJ CODE
MATL
TYPE
PURPOSE
LAB
SPEC #
SIZE
TEST NO
LOT OR SUFFIX
SAMPLED BY
MO
DAY
YEAR
TIME
LIFT NO
SAMPLED FROM
RDWY
STATION
PLUS
ORIGINAL SOURCE
P = PIT
E = EXC
I = IN PLACE
STATION OR PIT NO
PROJECT NUMBER
PROJECT ENGINEER
REMARKS
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards
T = AASHTO Tests
% OVERSIZE ARIZ 201
COARSE FACTOR
WEIGHTS RETAINED
% RET
% PASS
SPECS
CUMULATIVE % RET FINENESS MODULUS
Liquid Limit (LL)
Plastic Limit (PL)
Plasticity Index (PI) = LL - PL
Abrasion (A B C D)
Absorption H2O
Specific Gravity SSD
Specific Gravity OD
Sand Equivalent
Fractured Faces Weight (Wf)
Total Sample Weight (Wa)
Fractured Faces FF
WT PASS #8 SPLIT
FINE SIEVE FACTOR
Wet Weight (W)
Dry Weight (D)
Moisture Content
FLAKINESS INDEX
ph
Resistivity (ohm-cm)
Soluable Salts (PPM)
FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100
NECESSARY FOR ALL FA & CA
WHITE
YELLOW
BLUE
RECEIVED DATE
TEST OPERATOR AND DATE
SUPERVISOR AND DATE
SEE BACK ALSO


SAMPLE TABULATION
SOIL, AGGREGATE & BITUMINOUS MIXES
USE CAPITAL LETTERS
LAB NUMBER
PROJ CODE
MATL
TYPE
PURPOSE
LAB
SPEC #
SIZE
TEST NO
LOT OR SUFFIX
SAMPLED BY
MO
DAY
YEAR
TIME
LIFT NO
SAMPLED FROM
RDWY
STATION
PLUS
ORIGINAL SOURCE
P = PIT
E = EXC
I = IN PLACE
STATION OR PIT NO
PROJECT NUMBER
PROJECT ENGINEER
REMARKS
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards
T = AASHTO Tests
% OVERSIZE ARIZ 201
COARSE FACTOR
WEIGHTS RETAINED
% RET
% PASS
SPECS
CUMULATIVE % RET FINENESS MODULUS
Liquid Limit (LL)
Plastic Limit (PL)
Plasticity Index (PI) = LL - PL
Abrasion (A B C D)
Absorption H2O
Specific Gravity SSD
Specific Gravity OD
Sand Equivalent
Fractured Faces Weight (Wf)
Total Sample Weight (Wa)
Fractured Faces FF
WT PASS #8 SPLIT
FINE SIEVE FACTOR
Wet Weight (W)
Dry Weight (D)
Moisture Content
FLAKINESS INDEX
ph
Resistivity (ohm-cm)
Soluable Salts (PPM)
FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100
NECESSARY FOR ALL FA & CA
WHITE
YELLOW
BLUE
RECEIVED DATE
TEST OPERATOR AND DATE
SEE BACK ALSO



SAMPLE TABULATION
SOIL, AGGREGATE & BITUMINOUS MIXES

USE CAPITAL LETTERS

LAB NUMBER	PROJ CODE	MATL	TYPE	PUR POSE	LAB	SPEC #	SIZE	SIZE
G 1	3483	AB	03	A	P			0

TEST NO	LOT OR SUFFIX	SAMPLED BY	O DAY YEAR	TIME
1		[illegible]	07 29 93	1022

LIFT NO	SAMPLED FROM	ROWY	STATION	PLUS
1	Window on 4	EB	560	500

F MILEPOST INPUT DECIMAL IN COL 60

P = PIT
E = EXC
I = IN PLACE

ORIGINAL SOURCE

ROWY	STATION OR PIT NO.	PROJECT NUMBER	PROJECT ENGINEER
T	Tanner Pit	H293601C	Brubaker

IF MILEPOST INPUT DECIMAL IN COL 78

USE CAPITAL LETTERS!

REMARKS

G 2 SHRPS Section

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

11339

T = AASHTO Tests

% OVERSIZE ARIZ 201

G 3 COARSE FACTOR 008861 (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3					
2½					
2					
1½					
1			100	100	100
3/4	940	8	92	80-100	86
1/2	2478	22	70		
3/8	1166	10	60	55-75	49
1/4	926	8	52		
#4	300	3			
-#4	5475		49		
Total	11285				

5508
1.006

G 4 WT PASS #8 SPLIT 519 FINE SIEVE FACTOR 094412 (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	
#8	75	7	42	30-45	33
#10	18	2	40		
#16	64	6	34		
#30	118	10	24		
#40	58	6	18		
#50	47	4	14		
#100	58	6	8		
#200	25	2			
-#200	8				
Total	455 Dry Weight		60	0-8	58
Elutriation	64				

Liquid Limit (LL)	T 89	
Plastic Limit (PL)	T 90	
Plasticity Index (PI) = LL − PL	T 90	NP

H SPECS 0-3 H3 NB

Abrasion (A B C D)	T 96	
≠ 100 Revolutions		%
≠ 500 Revolutions		%
Absorption H_2O	ARIZ 211 T 85	%
Specific Gravity SSD		
Specific Gravity OD		
Sand Equivalent	T 176 ARIZ 242 (MAFC)	
Fractured Faces Weight (W_f)	(np)	459 g
Total Sample Weight (W_a)	(np)	595 g
Fractured Faces FF $\frac{W_f}{W_a} \times 100$	ARIZ 212	77 %
Wet Weight (W)	(np)	5220 g
Dry Weight (D)	(np)	5191 g
Moisture Content = $\frac{W-D}{D} \times 100$	T 255	6 %
FLAKINESS INDEX	ARIZ 233	%
ph	Ariz 236 or 237	
Resistivity (ohm-cm)	Ariz 236	
Soluble Salts (PPM)	Ariz 237	

67

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100

NECESSARY FOR ALL FA & CA

WHITE
YELLOW
BLUE

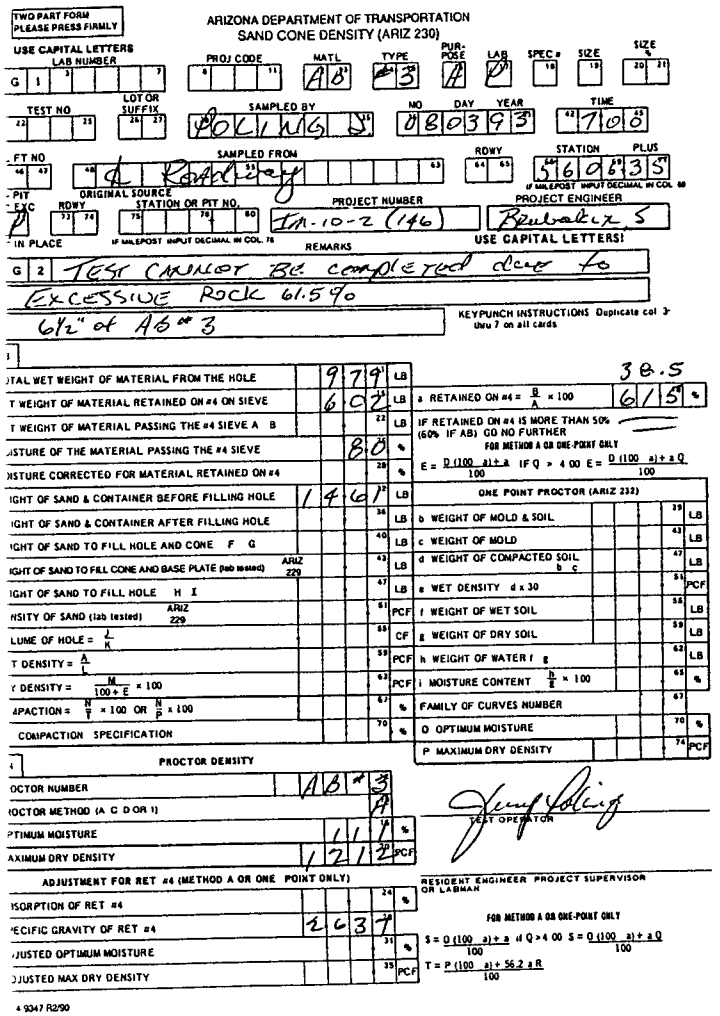
44-8353 R6/91

RECEIVED DATE

[signature] 7/20/93
TEST OPERATOR AND DATE

[signature] 7-30-9
SUPERVISOR AND DATE

SEE BACK ALSO



TWO PART FORM PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER: G 1 [ ]
PROJ CODE: [ ]
MATL: AB
TYPE: #3
PURPOSE: A
LAB: D
SPEC #: [ ]
SIZE: [ ]
SIZE %: [ ]
TEST NO: [ ]
LOT OR SUFFIX: [ ]
SAMPLED BY: BOLING S
MO DAY YEAR: 08 03 93
TIME: 07 00
LIFT NO: [ ]
SAMPLED FROM: E Roadway
RDWY: [ ]
STATION: 56 03 5 PLUS
P = PIT
E = EXC
I = IN PLACE
ORIGINAL SOURCE: D
RDWY: [ ]
STATION OR PIT NO.: [ ]
PROJECT NUMBER: IM-10-2 (146)
PROJECT ENGINEER: BRubalcx S
REMARKS: G 2 TEST CANNOT BE completed due to EXCESSIVE ROCK 61.5%
6½" of AB #3
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	979	LB
B WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	602	LB
C WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	8.0	%
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4		%
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14612	LB
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE		LB
H WEIGHT OF SAND TO FILL HOLE AND CONE F G		LB
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229		LB
J WEIGHT OF SAND TO FILL HOLE H I		PCF
K DENSITY OF SAND (lab tested) ARIZ 229		PCF
L VOLUME OF HOLE = L/K		CF
M WET DENSITY = A/L		PCF
N DRY DENSITY = M/(100+E) × 100		PCF
COMPACTION = N/T × 100 OR N/D × 100		%
COMPACTION SPECIFICATION		%

38.5

a RETAINED ON #4 = B/A × 100: 61.5 %

IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
FOR METHOD A OR ONE-POINT ONLY
E = D(100 a)+a / 100 IF Q > 4.00 E = D(100 a)+a Q / 100

ONE POINT PROCTOR (ARIZ 232)

b WEIGHT OF MOLD & SOIL		LB
c WEIGHT OF MOLD		LB
d WEIGHT OF COMPACTED SOIL b c		LB
e WET DENSITY d x 30		PCF
f WEIGHT OF WET SOIL		LB
g WEIGHT OF DRY SOIL		LB
h WEIGHT OF WATER f g		LB
i MOISTURE CONTENT h/g × 100		%
FAMILY OF CURVES NUMBER		
O OPTIMUM MOISTURE		%
P MAXIMUM DRY DENSITY		PCF

PROCTOR DENSITY

PROCTOR NUMBER	AB #3
PROCTOR METHOD (A C D OR I)	A
O OPTIMUM MOISTURE	11.1 %
P MAXIMUM DRY DENSITY	121 PCF

TEST OPERATOR: Jerry Boling

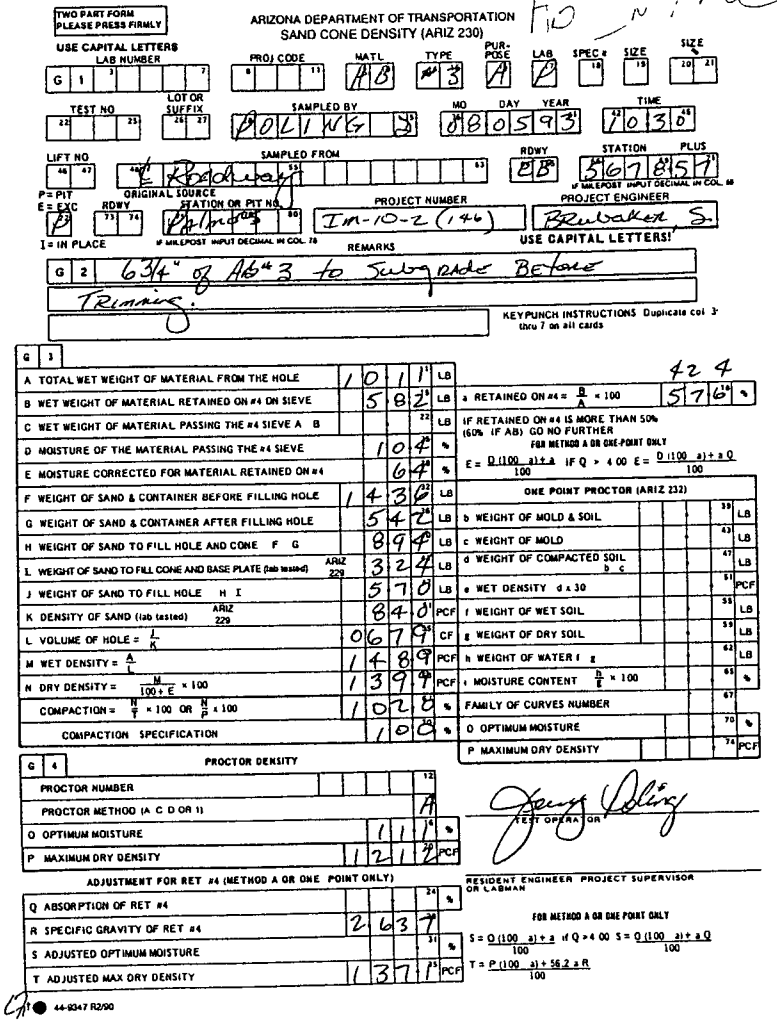
ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2.63	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY		PCF

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE-POINT ONLY
S = O(100 a)+a / 100 if Q > 4.00 S = O(100 a)+a Q / 100
T = P(100 a)+56.2 a R / 100

4 9347 R2/90



TWO PART FORM PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER: G 1 [ ]
PROJ CODE: [ ]
MATL: AB
TYPE: #3
PURPOSE: A
LAB: D
SPEC #: [ ]
SIZE: [ ]
SIZE %: [ ]
TEST NO: [ ]
LOT OR SUFFIX: [ ]
SAMPLED BY: BOLING S
MO DAY YEAR: 08 05 93
TIME: 10 30
LIFT NO: [ ]
SAMPLED FROM: E Roadway
RDWY: EB
STATION: 56 78 57 PLUS
P = PIT
E = EXC
I = IN PLACE
ORIGINAL SOURCE: D
RDWY: [ ]
STATION OR PIT NO.: Palm
PROJECT NUMBER: IM-10-2 (146)
PROJECT ENGINEER: BRubalcx S.
REMARKS: G 2 6¾" of AB #3 to Subgrade Before Trimming.
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	1011	LB
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	582	LB
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	10.4	%
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	6.4	%
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14362	LB
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	5427	LB
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	8944	LB
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3244	LB
J WEIGHT OF SAND TO FILL HOLE H I	5700	LB
K DENSITY OF SAND (lab tested) ARIZ 229	84.0	PCF
L VOLUME OF HOLE = L/K	06795	CF
M WET DENSITY = A/L	14.89	PCF
N DRY DENSITY = M/(100+E) × 100	13.99	PCF
COMPACTION = N/T × 100 OR N/D × 100	102	%
COMPACTION SPECIFICATION	100	%

42.4

a RETAINED ON #4 = B/A × 100: 57.6 %

IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
FOR METHOD A OR ONE-POINT ONLY
E = D(100 a)+a / 100 IF Q > 4.00 E = D(100 a)+a Q / 100

ONE POINT PROCTOR (ARIZ 232)

b WEIGHT OF MOLD & SOIL		LB
c WEIGHT OF MOLD		LB
d WEIGHT OF COMPACTED SOIL b c		LB
e WET DENSITY d x 30		PCF
f WEIGHT OF WET SOIL		LB
g WEIGHT OF DRY SOIL		LB
h WEIGHT OF WATER f g		LB
i MOISTURE CONTENT h/g × 100		%
FAMILY OF CURVES NUMBER		
O OPTIMUM MOISTURE		%
P MAXIMUM DRY DENSITY		PCF

PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A C D OR I)	A
O OPTIMUM MOISTURE	11.1 %
P MAXIMUM DRY DENSITY	121 PCF

TEST OPERATOR: Jerry Boling

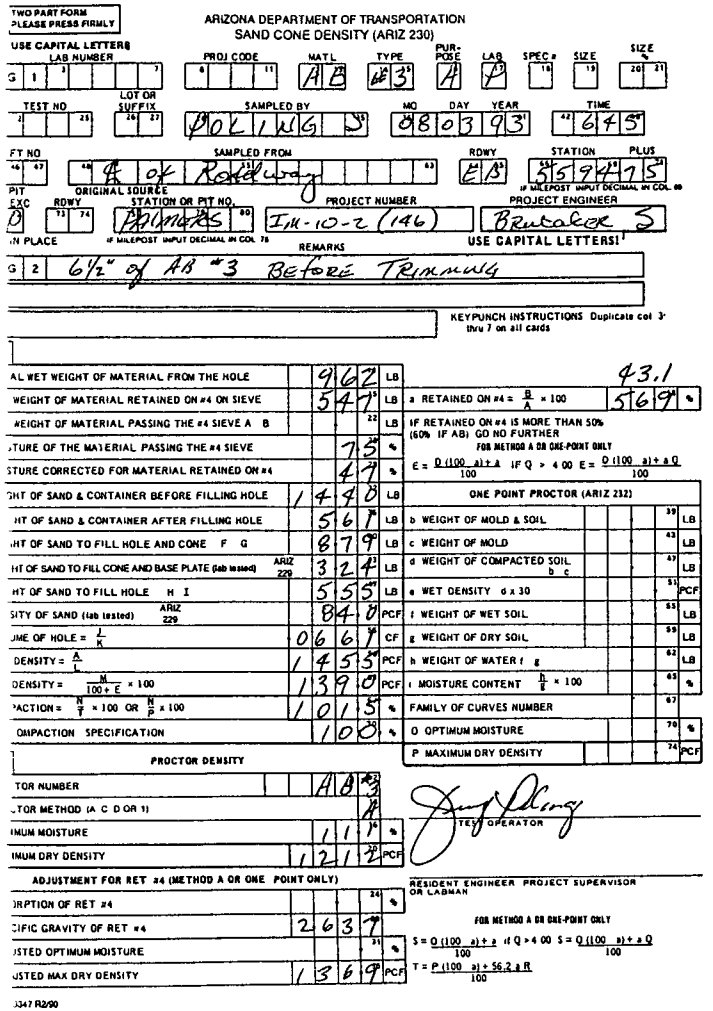
ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2.63	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	137.1	PCF

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE POINT ONLY
S = O(100 a)+a / 100 if Q > 4.00 S = O(100 a)+a Q / 100
T = P(100 a)+56.2 a R / 100

44-9347 R2/90



TWO PART FORM PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER: G 1 [ ]
PROJ CODE: [ ]
MATL: A B
TYPE: 3
PURPOSE: A
LAB: D
SPEC #:
SIZE:
SIZE: [ ]
TEST NO: [ ]
LOT OR SUFFIX: [ ]
SAMPLED BY: D O L W G S
MO: 0 8
DAY: 0 3
YEAR: 9 3
TIME: 1 6 4 5
LIFT NO: [ ]
SAMPLED FROM: R of Roadway
RDWY: E B
STATION: 5 5 9 4
PLUS: 7 5
IF MILEPOST INPUT DECIMAL IN COL. 60
PIT / EXC: D
ORIGINAL SOURCE
RDWY:
STATION OR PIT NO.: Palmers
PROJECT NUMBER: IM-10-2 (146)
PROJECT ENGINEER: Brubaker S
I = IN PLACE
IF MILEPOST INPUT DECIMAL IN COL. 78
USE CAPITAL LETTERS!

REMARKS
G 2 6½" of AB #3 Before Trimming

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

AL WET WEIGHT OF MATERIAL FROM THE HOLE	9 6 2	LB	
WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	5 4 7	LB	a RETAINED ON #4 = B/A × 100 = 43.1 → 56.9 %
WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB	IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
STURE OF THE MATERIAL PASSING THE #4 SIEVE	7.5	%	FOR METHOD A OR ONE-POINT ONLY
STURE CORRECTED FOR MATERIAL RETAINED ON #4	4.7	%	E = D(100 a)+a / 100 IF Q > 4.00 E = D(100 a)+a Q / 100
GHT OF SAND & CONTAINER BEFORE FILLING HOLE	1 4 4 0	LB	ONE POINT PROCTOR (ARIZ 232)
HT OF SAND & CONTAINER AFTER FILLING HOLE	5 6	LB	b WEIGHT OF MOLD & SOIL
HT OF SAND TO FILL HOLE AND CONE F G	8 7 9	LB	c WEIGHT OF MOLD
HT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3 2 4	LB	d WEIGHT OF COMPACTED SOIL b c
HT OF SAND TO FILL HOLE H I	5 5 5	LB	e WET DENSITY d x 30 → PCF
SITY OF SAND (lab tested) ARIZ 229	84.0	PCF	f WEIGHT OF WET SOIL → LB
UME OF HOLE = L/K	0 6 6 7	CF	g WEIGHT OF DRY SOIL → LB
DENSITY = A/L	1 4 5 5	PCF	h WEIGHT OF WATER f g → LB
DENSITY = N/(100+E) × 100	1 3 9 0	PCF	i MOISTURE CONTENT h/g × 100 → %
PACTION = N/T × 100 OR N/P × 100	1 0 1 5	%	FAMILY OF CURVES NUMBER
OMPACTION SPECIFICATION	1 0 0	%	O OPTIMUM MOISTURE → %
			P MAXIMUM DRY DENSITY → PCF

PROCTOR DENSITY

TOR NUMBER	A B 3	
TOR METHOD (A C D OR 1)	A	
IMUM MOISTURE	1 1.1	%
IMUM DRY DENSITY	1 2 1 2	PCF

TEST OPERATOR

ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

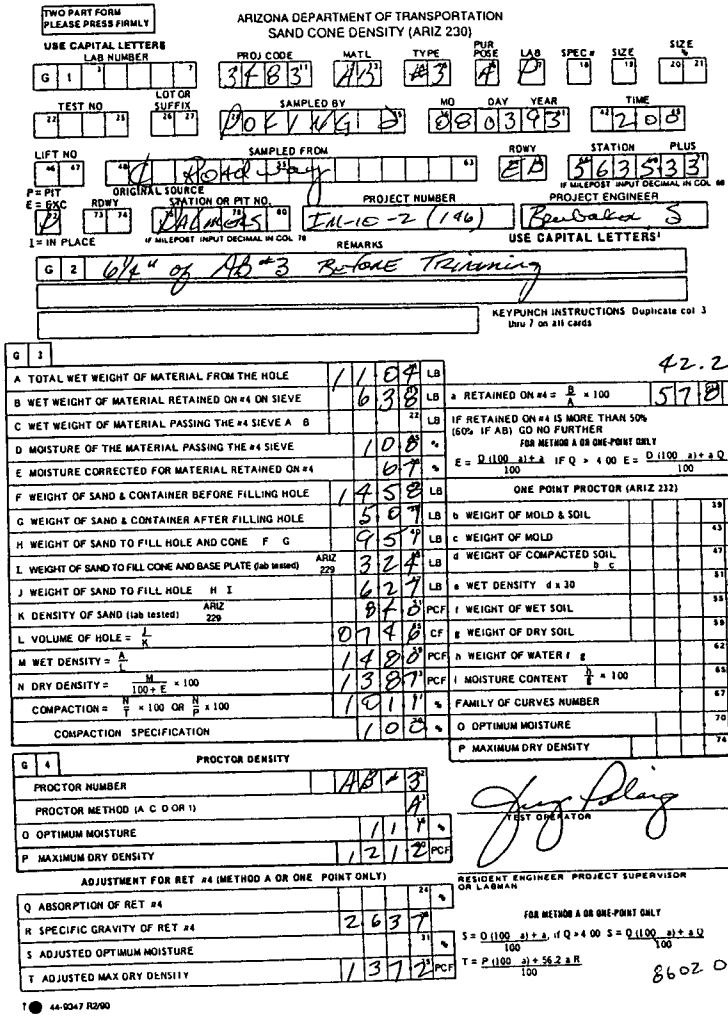
ORPTION OF RET #4		%
CIFIC GRAVITY OF RET #4	2 6 3 7	
USTED OPTIMUM MOISTURE		%
USTED MAX DRY DENSITY	1 3 6 9	PCF

FOR METHOD A OR ONE-POINT ONLY

S = O(100 a)+a / 100 if Q > 4.00 S = O(100 a)+a Q / 100

T = P(100 a)+56.2 a R / 100

9347 R2/90



TWO PART FORM PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER: G 1 [ ]
PROJ CODE: 3 F B 3
MATL: A B
TYPE: 3
PURPOSE: A
LAB: D
SPEC #:
SIZE:
SIZE: [ ]
TEST NO: [ ]
LOT OR SUFFIX: [ ]
SAMPLED BY: D O F W G S
MO: 0 8
DAY: 0 3
YEAR: 9 3
TIME: 1 2 0 5
LIFT NO: [ ]
SAMPLED FROM: R of Roadway
RDWY: E B
STATION: 5 6 3 5
PLUS: 3 3
IF MILEPOST INPUT DECIMAL IN COL. 60
P = PIT / E = EXC: D
ORIGINAL SOURCE
RDWY:
STATION OR PIT NO.: Palmers
PROJECT NUMBER: IM-10-2 (146)
PROJECT ENGINEER: Brubaker S
I = IN PLACE
IF MILEPOST INPUT DECIMAL IN COL. 78
USE CAPITAL LETTERS!

REMARKS
G 2 6¼" of AB #3 Before Training

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	1 1 0 4	LB	
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	6 3 8	LB	a RETAINED ON #4 = B/A × 100 = 42.2 → 57.8 %
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB	IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	1 0.8	%	FOR METHOD A OR ONE-POINT ONLY
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	6.7	%	E = D(100 a)+a / 100 IF Q > 4.00 E = D(100 a)+a Q / 100
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	1 4 5 8	LB	ONE POINT PROCTOR (ARIZ 232)
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	5 0 9	LB	b WEIGHT OF MOLD & SOIL
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	9 5 7	LB	c WEIGHT OF MOLD
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3 2 4	LB	d WEIGHT OF COMPACTED SOIL b c
J WEIGHT OF SAND TO FILL HOLE H I	6 2 4	LB	e WET DENSITY d x 30 → PCF
K DENSITY OF SAND (lab tested) ARIZ 229	9 4.0	PCF	f WEIGHT OF WET SOIL → LB
L VOLUME OF HOLE = L/K	0 7 4 6	CF	g WEIGHT OF DRY SOIL → LB
M WET DENSITY = A/L	1 4 9 0	PCF	h WEIGHT OF WATER f g → LB
N DRY DENSITY = M/(100+E) × 100	1 3 8 7	PCF	i MOISTURE CONTENT h/g × 100 → %
COMPACTION = N/T × 100 OR N/P × 100	1 0 1 1	%	FAMILY OF CURVES NUMBER
COMPACTION SPECIFICATION	1 0 0	%	O OPTIMUM MOISTURE → %
			P MAXIMUM DRY DENSITY → PCF

PROCTOR DENSITY

PROCTOR NUMBER	A B 3	
PROCTOR METHOD (A C D OR 1)	A	
O OPTIMUM MOISTURE	1 1.1	%
P MAXIMUM DRY DENSITY	1 2 1 2	PCF

TEST OPERATOR

ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2 6 3 7	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	1 3 7 2	PCF

FOR METHOD A OR ONE-POINT ONLY

S = O(100 a)+a / 100 if Q > 4.00 S = O(100 a)+a Q / 100

T = P(100 a)+56.2 a R / 100

8602 O

44-9347 R2/90

TWO PART FORM PLEASE PRESS FIRMLY

USE CAPITAL LETTERS

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

LAB NUMBER: G 1 [ ]

PROJ CODE: 3483 | MATL: AB | TYPE: #3 | PUR POSE: A | LAB: D | SPEC #: | SIZE: | SIZE %:

TEST NO: | LOT OR SUFFIX: | SAMPLED BY: BOLING | NO: 08 | DAY: 09 | YEAR: 93 | TIME: 1245

LIFT NO: | SAMPLED FROM: E Roadway | RDWY: B | STATION: 571765 | PLUS:

P = PIT, E = EXC, I = IN PLACE | ORIGINAL SOURCE | STATION OR PIT NO: B Mesa S | PROJECT NUMBER: IM-10-2 (146) | PROJECT ENGINEER: Brubaker, S

IF MILEPOST INPUT DECIMAL IN COL 78 | USE CAPITAL LETTERS!

REMARKS: G 2 4½" AB#3 Before Tmng

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

G 3

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	9518	LB
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	5638	LB
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	988	%
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	628	%
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14788	LB
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	6148	LB
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	8648	LB
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3243	LB
J WEIGHT OF SAND TO FILL HOLE H I	5470	LB
K DENSITY OF SAND (lab tested) ARIZ 229	8480	PCF
L VOLUME OF HOLE = L/K	06435	CF
M WET DENSITY = A/L	14799	PCF
N DRY DENSITY = M/(100+E) x 100	13935	PCF
COMPACTION = N/T x 100 OR N/P x 100	10128	%
COMPACTION SPECIFICATION	1008	%

a RETAINED ON #4 = B/A x 100 = 5928 %

IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER

FOR METHOD A OR ONE-POINT ONLY

E = D(100 a)+a / 100 IF Q > 4.00 E = D(100 a)+aQ / 100

ONE POINT PROCTOR (ARIZ 232)

b WEIGHT OF MOLD & SOIL		LB
c WEIGHT OF MOLD		LB
d WEIGHT OF COMPACTED SOIL b c		LB
e WET DENSITY d x 30		PCF
f WEIGHT OF WET SOIL		LB
g WEIGHT OF DRY SOIL		LB
h WEIGHT OF WATER f g		LB
i MOISTURE CONTENT h/g x 100		%
FAMILY OF CURVES NUMBER		
O OPTIMUM MOISTURE		%
P MAXIMUM DRY DENSITY		PCF

408

G 4

PROCTOR DENSITY

PROCTOR NUMBER		
PROCTOR METHOD (A C D OR I)	A	
O OPTIMUM MOISTURE	11.1	%
P MAXIMUM DRY DENSITY	121.2	PCF

TEST OPERATOR: Jerry Boling

ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2637	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	13716	PCF

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE POINT ONLY

S = O(100 a)+a / 100 if Q > 4.00 S = O(100 a)+aQ / 100

T = P(100 a)+56.2aR / 100

44-9347 R2/90

TWO PART FORM PLEASE PRESS FIRMLY

USE CAPITAL LETTERS

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

LAB NUMBER: G 1 [ ]

PROJ CODE: 3483 | MATL: AB | TYPE: #3 | PUR POSE: A | LAB: D | SPEC #: | SIZE: | SIZE %:

TEST NO: | LOT OR SUFFIX: | SAMPLED BY: BOLING | NO: 08 | DAY: 09 | YEAR: 93 | TIME: 0910

LIFT NO: | SAMPLED FROM: E Roadway | RDWY: B | STATION: 569420 | PLUS:

P = PIT, E = EXC, I = IN PLACE | ORIGINAL SOURCE | STATION OR PIT NO: B Mesa S | PROJECT NUMBER: IM-10-2 (146) | PROJECT ENGINEER: Brubaker, S

IF MILEPOST INPUT DECIMAL IN COL 78 | USE CAPITAL LETTERS!

REMARKS: G 2 4½" AB#3 Before Tmng

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

G 3

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	9288	LB
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	5418	LB
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	947	%
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	597	%
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	15038	LB
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	6477	LB
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	8553	LB
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3243	LB
J WEIGHT OF SAND TO FILL HOLE H I	5299	LB
K DENSITY OF SAND (lab tested) ARIZ 229	8480	PCF
L VOLUME OF HOLE = L/K	06305	CF
M WET DENSITY = A/L	14713	PCF
N DRY DENSITY = M/(100+E) x 100	13911	PCF
COMPACTION = N/T x 100 OR N/P x 100	10133	%
COMPACTION SPECIFICATION	1008	%

a RETAINED ON #4 = B/A x 100 = 5834 %

IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER

FOR METHOD A OR ONE-POINT ONLY

E = D(100 a)+a / 100 IF Q > 4.00 E = D(100 a)+aQ / 100

ONE POINT PROCTOR (ARIZ 232)

b WEIGHT OF MOLD & SOIL		LB
c WEIGHT OF MOLD		LB
d WEIGHT OF COMPACTED SOIL b c		LB
e WET DENSITY d x 30		PCF
f WEIGHT OF WET SOIL		LB
g WEIGHT OF DRY SOIL		LB
h WEIGHT OF WATER f g		LB
i MOISTURE CONTENT h/g x 100		%
FAMILY OF CURVES NUMBER		
O OPTIMUM MOISTURE		%
P MAXIMUM DRY DENSITY		PCF

417

G 4

PROCTOR DENSITY

PROCTOR NUMBER		
PROCTOR METHOD (A C D OR I)	A	
O OPTIMUM MOISTURE	11.1	%
P MAXIMUM DRY DENSITY	121.2	PCF

TEST OPERATOR: Jerry Boling

ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2637	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	13713	PCF

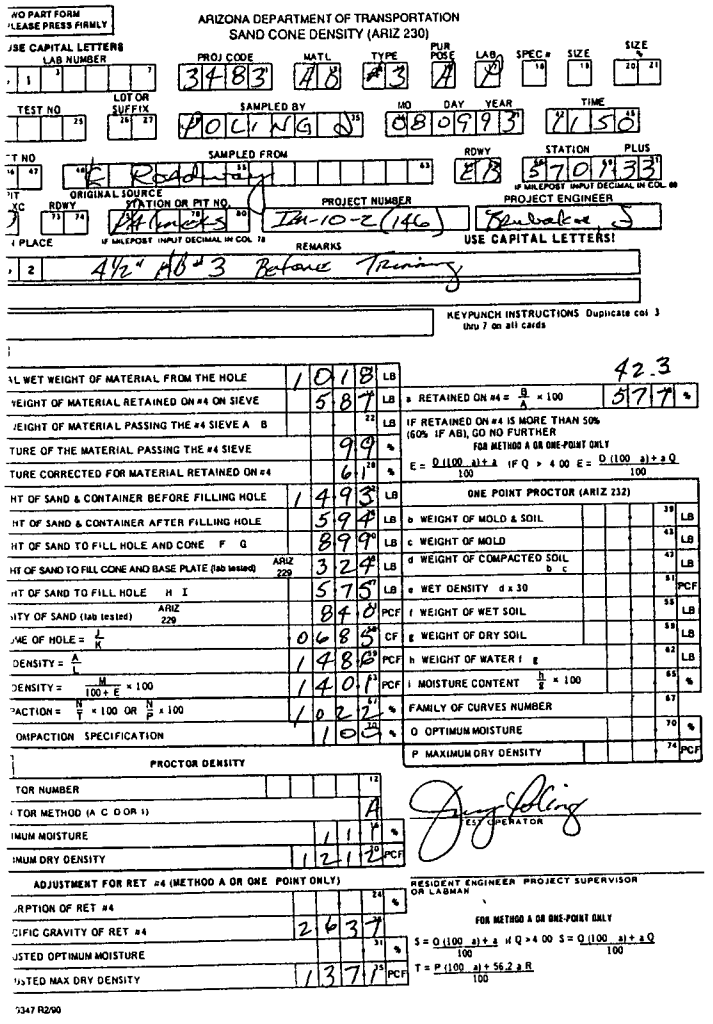
RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE POINT ONLY

S = O(100 a)+a / 100 if Q > 4.00 S = O(100 a)+aQ / 100

T = P(100 a)+56.2aR / 100

44-9347 R2/90



TWO PART FORM PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER	PROJ CODE	MATL	TYPE	PUR POSE	LAB	SPEC #	SIZE	SIZE %
G 1	34 83	AB	#3	A				

TEST NO	LOT OR SUFFIX	SAMPLED BY	MO	DAY	YEAR	TIME
		MCWG	08	09	93	12 28

LIFT NO	SAMPLED FROM	RDWY	STATION	PLUS
	SB Roadway	EB	571300	

IF MILEPOST INPUT DECIMAL IN COL. 68

P = PIT E = EXC I = IN PLACE

ORIGINAL SOURCE STATION OR PIT NO.: PA Rock 25 | PROJECT NUMBER: IM-10-2(146) | PROJECT ENGINEER: BRubaker S

USE CAPITAL LETTERS!

REMARKS: G 2 6½" AB #3 Before Trimming

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

G 3

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	9741	LB	
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	557	LB	a RETAINED ON #4 = B/A × 100 = 57.2 %
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB	IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	101	%	FOR METHOD A OR ONE POINT ONLY
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	62	%	E = D(100 a)+a/100 IF Q > 4.00 E = D(100 a)+aQ/100
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14352	LB	ONE POINT PROCTOR (ARIZ 232)
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	5616	LB	b WEIGHT OF MOLD & SOIL
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	8744	LB	c WEIGHT OF MOLD
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3244	LB	d WEIGHT OF COMPACTED SOIL b c
J WEIGHT OF SAND TO FILL HOLE H I	5504	LB	e WET DENSITY d x 30
K DENSITY OF SAND (lab tested) ARIZ 229	8408	PCF	f WEIGHT OF WET SOIL
L VOLUME OF HOLE = J/K	06555	CF	g WEIGHT OF DRY SOIL
M WET DENSITY = A/L	14877	PCF	h WEIGHT OF WATER f g
N DRY DENSITY = M/(100+E) × 100	14078	PCF	i MOISTURE CONTENT h/g × 100
COMPACTION = N/T × 100 OR N/P × 100	10278	%	FAMILY OF CURVES NUMBER
COMPACTION SPECIFICATION	108	%	O OPTIMUM MOISTURE
			P MAXIMUM DRY DENSITY

G 4 PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A C D OR I)	A
O OPTIMUM MOISTURE	11.1 %
P MAXIMUM DRY DENSITY	121 PCF

TEST OPERATOR

ADJUSTMENT FOR RET #4 (METHOD A OR ONE- POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2.637	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	1370	PCF

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE-POINT ONLY

S = O(100 a)+a/100 if Q > 4.00 S = O(100 a)+aQ/100

T = P(100 a)+56.2 a R/100

44-9347 R2/90

TWO PART FORM PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER	PROJ CODE	MATL	TYPE	PUR POSE	LAB	SPEC #	SIZE	SIZE %
G 1	34 83	AB	#3	A				

TEST NO	LOT OR SUFFIX	SAMPLED BY	MO	DAY	YEAR	TIME
		MCWG	08	09	93	12 28

LIFT NO	SAMPLED FROM	RDWY	STATION	PLUS
	SB Roadway	EB	571300	

IF MILEPOST INPUT DECIMAL IN COL. 68

P = PIT E = EXC I = IN PLACE

ORIGINAL SOURCE STATION OR PIT NO.: PA Rock 25 | PROJECT NUMBER: IM-10-2(146) | PROJECT ENGINEER: BRubaker S

USE CAPITAL LETTERS!

REMARKS: G 2 6½" AB #3 Before Trimming

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

G 3

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	9741	LB	
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	557	LB	a RETAINED ON #4 = B/A × 100 = 57.2 %
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB	IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	101	%	FOR METHOD A OR ONE POINT ONLY
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	62	%	E = D(100 a)+a/100 IF Q > 4.00 E = D(100 a)+aQ/100
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	14352	LB	ONE POINT PROCTOR (ARIZ 232)
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	5616	LB	b WEIGHT OF MOLD & SOIL
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	8744	LB	c WEIGHT OF MOLD
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	3244	LB	d WEIGHT OF COMPACTED SOIL b c
J WEIGHT OF SAND TO FILL HOLE H I	5504	LB	e WET DENSITY d x 30
K DENSITY OF SAND (lab tested) ARIZ 229	8408	PCF	f WEIGHT OF WET SOIL
L VOLUME OF HOLE = J/K	06555	CF	g WEIGHT OF DRY SOIL
M WET DENSITY = A/L	14877	PCF	h WEIGHT OF WATER f g
N DRY DENSITY = M/(100+E) × 100	14078	PCF	i MOISTURE CONTENT h/g × 100
COMPACTION = N/T × 100 OR N/P × 100	10278	%	FAMILY OF CURVES NUMBER
COMPACTION SPECIFICATION	108	%	O OPTIMUM MOISTURE
			P MAXIMUM DRY DENSITY

G 4 PROCTOR DENSITY

PROCTOR NUMBER	
PROCTOR METHOD (A C D OR I)	A
O OPTIMUM MOISTURE	11.1 %
P MAXIMUM DRY DENSITY	121 PCF

TEST OPERATOR

ADJUSTMENT FOR RET #4 (METHOD A OR ONE- POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2.637	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	1370	PCF

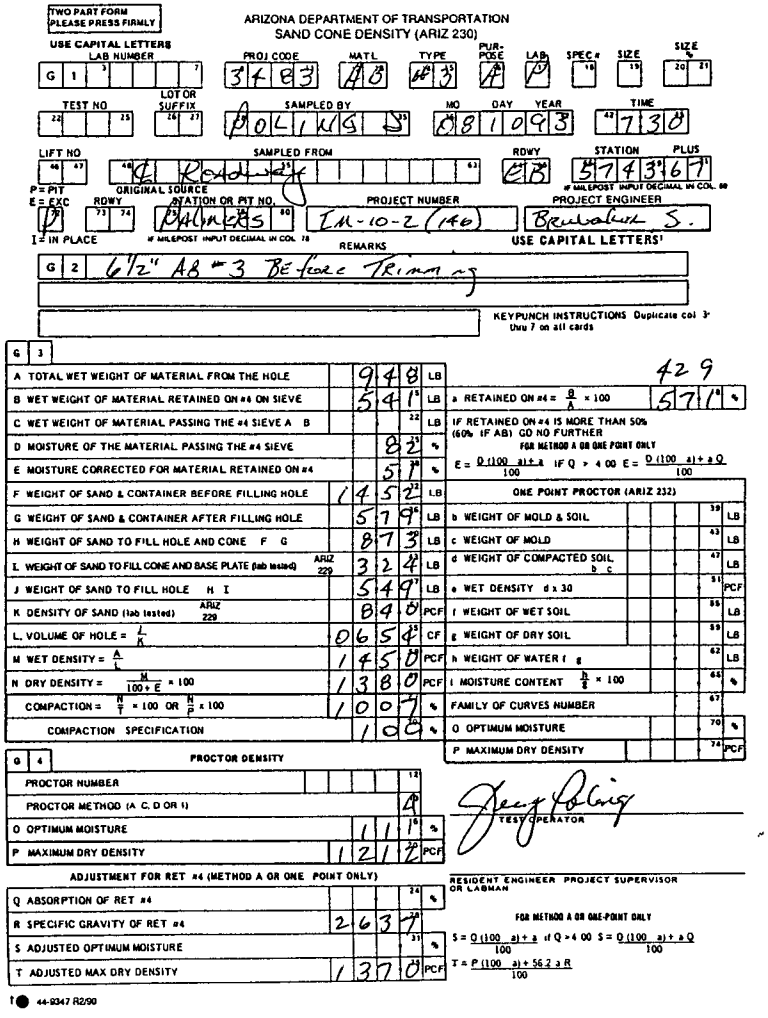
RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE-POINT ONLY

S = O(100 a)+a/100 if Q > 4.00 S = O(100 a)+aQ/100

T = P(100 a)+56.2 a R/100

44-9347 R2/90



TWO PART FORM
PLEASE PRESS FIRMLY

ARIZONA DEPARTMENT OF TRANSPORTATION
SAND CONE DENSITY (ARIZ 230)

USE CAPITAL LETTERS

LAB NUMBER	PROJ CODE	MATL	TYPE	PURPOSE	LAB	SPEC #	SIZE	SIZE %
G 1	3483	AB	#3	A	D			

TEST NO	LOT OR SUFFIX	SAMPLED BY	MO DAY YEAR	TIME
		POLING D	081093	730

LIFT NO	SAMPLED FROM	RDWY	STATION PLUS
	℄ Roadway	EB	5743.67

P = PIT
E = EXC
I = IN PLACE

ORIGINAL SOURCE

RDWY	STATION OR PIT NO.	PROJECT NUMBER	PROJECT ENGINEER
P	Palmers	IM-10-2 (146)	Brubaker S.

IF MILEPOST INPUT DECIMAL IN COL. 78

USE CAPITAL LETTERS

REMARKS

G 2 6½" AB #3 Before Trimming

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

G 3

A TOTAL WET WEIGHT OF MATERIAL FROM THE HOLE	948	LB
B WET WEIGHT OF MATERIAL RETAINED ON #4 ON SIEVE	541	LB
C WET WEIGHT OF MATERIAL PASSING THE #4 SIEVE A B		LB
D MOISTURE OF THE MATERIAL PASSING THE #4 SIEVE	82	%
E MOISTURE CORRECTED FOR MATERIAL RETAINED ON #4	51	%
F WEIGHT OF SAND & CONTAINER BEFORE FILLING HOLE	1452	LB
G WEIGHT OF SAND & CONTAINER AFTER FILLING HOLE	579	LB
H WEIGHT OF SAND TO FILL HOLE AND CONE F G	873	LB
I WEIGHT OF SAND TO FILL CONE AND BASE PLATE (lab tested) ARIZ 229	324	LB
J WEIGHT OF SAND TO FILL HOLE H I	549	LB
K DENSITY OF SAND (lab tested) ARIZ 229	840	PCF
L VOLUME OF HOLE = $\frac{J}{K}$	0654	CF
M WET DENSITY = $\frac{A}{L}$	1450	PCF
N DRY DENSITY = $\frac{M}{100+E} \times 100$	1380	PCF
COMPACTION = $\frac{N}{T} \times 100$ OR $\frac{N}{P} \times 100$	1007	%
COMPACTION SPECIFICATION	100	%

429

a RETAINED ON #4 = $\frac{B}{A} \times 100$	571	%

IF RETAINED ON #4 IS MORE THAN 50% (60% IF AB) GO NO FURTHER

FOR METHOD A OR ONE POINT ONLY

$E = \frac{D(100\ a) + a}{100}$ IF Q > 4.00 $E = \frac{D(100\ a) + aQ}{100}$

ONE POINT PROCTOR (ARIZ 232)

b WEIGHT OF MOLD & SOIL		LB
c WEIGHT OF MOLD		LB
d WEIGHT OF COMPACTED SOIL b c		LB
e WET DENSITY d x 30		PCF
f WEIGHT OF WET SOIL		LB
g WEIGHT OF DRY SOIL		LB
h WEIGHT OF WATER f g		LB
i MOISTURE CONTENT $\frac{h}{g} \times 100$		%
FAMILY OF CURVES NUMBER		
O OPTIMUM MOISTURE		%
P MAXIMUM DRY DENSITY		PCF

G 4 PROCTOR DENSITY

PROCTOR NUMBER		
PROCTOR METHOD (A C, D OR I)	A	
O OPTIMUM MOISTURE	111	%
P MAXIMUM DRY DENSITY	1212	PCF

ADJUSTMENT FOR RET #4 (METHOD A OR ONE POINT ONLY)

Q ABSORPTION OF RET #4		%
R SPECIFIC GRAVITY OF RET #4	2637	
S ADJUSTED OPTIMUM MOISTURE		%
T ADJUSTED MAX DRY DENSITY	1370	PCF

Jerry Poling
TEST OPERATOR

RESIDENT ENGINEER PROJECT SUPERVISOR OR LABMAN

FOR METHOD A OR ONE-POINT ONLY

$S = \frac{O(100\ a) + a}{100}$ if Q > 4.00 $S = \frac{O(100\ a) + aQ}{100}$

$T = \frac{P(100\ a) + 56.2\ aR}{100}$

44-9347 R2/90

THE TANNER COMPANIES
(Construction Division)
3888 E Broadway P O Box 52151
Phoenix Arizona 85072 2151
Phone 437-7878

LETTER OF TRANSMITTAL

DATE 11-23-93 JOB NO 2974-455
ATTENTION Jim Brubaker
RE Phoenix Culvert
Im-10-2(146)
58-85

ADOT
P.O. Box
Buckeye, AZ 85326

NTLEMEN

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☒ Certifications 1 Original 2 Copies

ES	DATE	NO	DESCRIPTION
	8/8/93		Fabric Certification UVS Dist Roll Averages
	7/23/93	0P013	Fabric Certification Amoco Fabrics - Style 4553

SE ARE TRANSMITTED as checked below

☒ For approval ☐ Approved as submitted ☐ Resubmit ____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit ____ copies for distribution
☒ As requested ☐ Returned for corrections ☐ Return ____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19____ ☐ PRINTS RETURNED AFTER LOAN TO US

ARKS _____

per Daniel G. Cook

Y TO Erik, S. Pearl, Log

SIGNED Sandra D Bibb

9-88

If enclosures are not as noted, kindly notify us at once.

B-14

SOIL AGGREGATE & BITUMINOUS MIXES — SAMPLE TABULATION

USE CAPITAL LETTERS

LAB NUMBER G 1 | PROJ CODE 3483 | MATL CA | TYPE 57 | PUR POSE A | LAB P | SPEC # | SIZE | SIZE

TEST NO 22 P | LOT OR SUFFIX | SAMPLED BY POLING | TO 08 | DAY 12 | YEAR 93 | TIME 730

LIFT NO | SAMPLED FROM Stock Pile | RDWY EB | STATION 567+10 | PLUS

P = PIT, E = EXC | ORIGINAL SOURCE | RDWY | STATION OR PIT NO CHINCAS | PROJECT NUMBER IM-10-2 (146) | PROJECT ENGINEER Brubaker S

I = IN PLACE — IF MILEPOST INPUT DECIMAL IN COL 78 — USE CAPITAL LETTERS

REMARKS

G 2 ATED ROCK 308 (SPLIT)
STD. Specs Plow Pg 70 of 209

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

ATED

T = AASHTO Tests

% OVERSIZE ARIZ 201 — COARSE FACTOR 614211 (no punch)

G 3

	WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3					
2½					100
2				100	
1½			100	100	
1			100	95-100	100
¾	543	8	92		
½	2746	39	53	25-60	51
⅜	1747	25	28		
No 4	162	23	5		
#8	230	3			
#4	144				
Total	7037		2	0-10	J

WT PASS #4 — SPLIT — FINE SIEVE FACTOR (no punch)

G 4

	WEIGHTS RETAINED	% RET	% PASS	
#8	96	1	1	0-5
#10	5	0	1	0-2
#16	43	1	0	
#30				
#40				
#50				
#100				
#200				
-#200				
Total				
Elutriation				

Dry Weight

Liquid Limit (LL) T 89	
Plastic Limit (PL) T 90	SPECS
Plasticity Index (PI) = LL − PL T 90	
Abrasion (A B C D) T 96	
+100 Revolutions	
+500 Revolutions	
Absorption H_2O ARIZ 211 T 85	1.4 3 % 0-2.5
Specific Gravity SSD	
Specific Gravity OD	2.62 6 2.35-2.85
Sand Equivalent T 176 ARIZ 242 (MAFC)	
Fractured Faces Weight (W_f) (np)	32.7
Total Sample Weight (W_s) (np)	33.5
Fractured Faces FF = $\frac{W_f}{W_s}$ × 100 ARIZ 212	98 % 90
Wet Weight (W) (np)	
Dry Weight (D) (np)	
Moisture Content = $\frac{W-D}{D}$ × 100 T 255	%
FLAKINESS INDEX ARIZ 233	%
ph Ariz 236 or 237	
Resistivity (ohm-cm) Ariz 236	
Soluable Salts (PPM) Ariz 237	

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100

NECESSARY FOR ALL FA & CA

WHITE ☐ YELLOW ☐ BLUE ☐

1 ● 44-9353 R8/91

RECEIVED DATE

TEST OPERATOR AND DATE

SUPERVISOR AND DATE 8-16-93

SEE BACK ALSO

Amoco Fabrics Company
Quality Control Department
P O Box 836
Hazlehurst, Georgia 31539-0451

July 23, 1993

UVS/Ace Asphalt of Arizona, Inc
895 West Elwood
Phoenix, AZ 85041

Re Purchase Order # 77

We wish to certify that the Amoco CEF Style 4553 shipped to you under Shipping # OP013, dated July 22, 1993 meets the following minimum roll averages

Property	Test Method	Minimum Roll Average Value	Typical Value
Grab Tensile, lbs	ASTM-D-4632	200	240
Grab Elongation, %	ASTM-D-4632	50	71
Mullen Burst, psi	ASTM-D-3786	450	525
Puncture, lbs	ASTM-D-4833 (Modi)	130	158
Trapezoid Tear, lbs	ASTM-D-4533	80	105
U V Resistance, %* (Strength Retained)	ASTM-D-4355	70	85
A O S % Retained	ASTM-D-4751	100	120
Permittivity, (l/sec) gal/min/sq ft	ASTM-D-4491	7 80	1 7 136

*Percent of minimum grab tensile after conditioning

Amoco Fabrics and Fibers Company manufactures all the nonwoven geotextile fabric certified above The values above are a result of testing conducted in on-site laboratories at the time of production The typical values provided are for comparison purposes, and are representative of current production of this product All test methods used are ASTM or industry standards Test data is retained in the Quality Control files at Amoco's production facility

Eleanor O Campbell
Quality Control Supervisor

mom

UVS DIST

HOME OFFICE
895 W ELWOOD
PHOENIX AZ 85041
(602) 268 1233
(602) 243 3768 FAX

Tucson
4030 E MICHIGAN
BLDG #3
TUCSON AZ 85714
(602) 747 5959
(602) 747 5513 FAX

Las Vegas
3172 N RAINBOW BLVD
SUITE 126
LAS VEGAS NV 89108
(702) 656-8170
(702) 656 8171 FAX

AUG 8 1993

Mr DAN COOK
TANNER CONSTRUCTIONM
P O. BOX 52151
PHOENIX AZ,85072-2151

RE· A-DOT PROJECT # IM-10-2(146) TONOPAH

Dear Mr COOK

We wish to advise you that Amoco CEF Style 4553 geotextile fabric, meets ADOT requirements for 1014-5, 1014-4 03 (high survivability fabric), and the following minimum roll averages.

PROPERTY	TEST METHOD	MINIMUM ROLL AVERAGE VALUE	TYPICAL VALUE
Grab Tensile, lbs.	ASTM-D-4632	200	230
Grab Elongation, %	ASTM-D-4632	50	74
Mullen Burst, psi	ASTM-D-3786	450	695
Puncture, lbs	ASTM-D-4833	130	162
Trapezoid Tear, lbs.	ASTM-D-4533	80	127
U.V. Resistance, %SR	ASTM-D-4355	70	70
A.O S , U S. Sieve #	ASTM-D-4751	100	100
Permitivity, 1/sec	ASTM-D-4491	.7	1.7
Gal/min/sq ft.	ASTM-D-4491	80	130

Amoco Fabrics and Fibers Company manufactures all the nonwoven geotextile fabric indicated above. The values above are a result of testing conducted in on-site laboratories at the time of production The typical values provided are for comparison purposes, and are representative of current production of this product A letter certifying the minimum average roll values will be issued from the manufacturing plant by the Quality Control Manager

Sincerely,

Steven B. SCHMITZ
GENERAL MANAGER

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS SECTION
GEOTEXTILE TEST REPORT

WHITE
YELLOW L
BLUE L

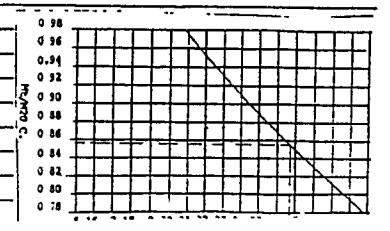
PROJECT H293601C CONTRACTOR TANNER LAB NO. 93-27528
PROJECT ENG. BRUBAKER DATE RECD. 10-7-93
SAMPLE NO. 1 LOC. SUPPLY DATE TEST 10-7-93
DATE SAMPLE 8-10-93 DESCRIPTION TEST BY FLORES
SAMPLE BY POLING MANUFACTURER SPEC

Water temperature data:
F= 80° C= 26.7 C=((F - 32) 5/9)) Mt/M20C. 86 See Fig.I

Test	THICKNESS		FLOW TIME		TENSILE STRENGTH		EXTENSION "		ELONGATION %	
	ins.	cm	T1(sec)	T2 (sec)	MD ~~Warp~~	XMD ~~Fill~~	MD ~~Warp~~	XMD ~~Fill~~	Warp	Fill
1.	.083	.211	4.7	5.0	284	599	2.27	1.68	76	56
2.	.083	.211	5.7	6.3	270	612	2.38	1.64	79	55
3.	.084	.213	3.2	4.8	288	631	2.45	2.04	82	68
4.	.083	.211	4.6	5.1	308	544	2.76	1.57	92	52
5.	TOTAL =	846	TOTAL = 39.4 OF ALL 8		AVG = 287.5 AVG = 596.5 $\bar{S}$= 287.5 lbs.				AVG= 82.3 AVG= 57.8 $\bar{E}$= 57.8 %	
AVG	$\bar{L}$= .212 cms.		$\bar{t}$= 4.9 sec.		Spec.= lbs.min.				Spec.= %	

PUNCTURE		TRAPEZOID TEAR		PERMEABILITY	FLOW RATE
BALL	PROBE	MD ~~WARP~~	XMD ~~FILL~~	K=2.7678 $\bar{L}$(Mt/m20C.)/ $\bar{t}$	FR= 590.4 / t
A	194	120	152	K=2.7678(212)(86)/4.9	FR= 120.5
B	275	110	141	K= 1029 cm/sec	SPEC gal/min/ft2
C	194	95	125	SPEC. cm/sec	
D	256	84	137	Permittivity	Weight oz/yd2
E TOTAL =	919	AVG= 102.3	AVG=138.8	K/L 1029 ÷ 212	oz/.02464
AVG	229.8	AVG 102.3 lbs.		0.4854	12.4 oz/yd²
SPEC.		SPEC. lbs		SPEC. sec-1	SPEC.

REMARKS:



ENTERED IN TRACS
44-3940 a/m
Date 10-7-93
Document # 0255248 Actv MC 25
Projects H293601C

Test No	Quan	Test No	Quan	Test No.	Quan
679	1	683	1	1500	10.50
680	1	685	1	5150	31.00
681	1	686	1	2100	10.50
682	1			2100	

Total Charge 16050

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS SECTION
CHEMISTRY LAB TEST CARD

BPF
White ☒
Yellow ☐
Blue ☐

Received 10-7-93 Test Completed 10-12-93 Material GEOSYNTHETICS
Identification 1 Sampled 8-10-93 Lab. No 93-27528
Submitted by BRUBAKER Sampled by POLING Project No. H293601C
Source of Sample STOCK ON HAND Quantity 30 sq. FT
Location of Supply IM 10-2-(146)
Project Name EHRENBERG-PHOENIX HWY Contractor TANNER
Specifications Governing STANDARD SPECIFICATION SECTION 1014-4.03(A)
Interior SPECIAL PROVISION
Remarks HIGH SURVIVABILITY FABRIC NON-WOVEN

Tests	Test Results	Specifications
TENSILE STRENGTH	287.5 LBS.	200 LBS.
ELONGATION	57.8 %	45 MIN 115 MAX.
TRAPEZOIDAL TEAR	102.3 LBS.	50 LBS.
PERMITTIVITY	0.48 SEC.-1	.10 SEC.-1
PUNCTURE	229.8 LBS.	80 LBS.

Donald K. Crum
OCT 25 1993
MATERIALS TESTING ENGINEER

TANNER COMPANIES CENTRAL LABORATORY - MARSHALL MIX DESIGN REPORT

AASHTO T245 (MARSHALL MIX DESIGN METHOD FOR ASPHALTIC CONCRETE)

TANNER CONSTRUCTION

EHRENBURG - PHOENIX HWY (TONOPAH - SR 85)

GNATION: ADOT AC BASE

F SAMPLES: STOCKPILES

93-053A

T CODE 34703A

DATE 7/21/93

PROJECT NO IM 10-2(146)

SOURCE OF MAT'L: UNITED METRO PLANT 1

SAMPLED BY: A. GREEN

PERCENT MINERAL ADMIX: 1 5

E GRADATION

%	MATERIAL		%
FINES 23	IN A.	FINES	22.7
FINES 10	CRUSHER	FINES	9 9
FINES 20	WASHED	FINES	19 7
3/8" 10	IN A.	3/8"	9.9
1/2" 13	IN A	1/2"	12 8
3/4" 24	IN A.	3/4"	23.6
	ADMIX		1 5

W/O ADMIX % PASSING	W/ADMIX % PASSING	SPEC LIMITS
100	100	100
100	100	90-100
93	93	85-95
80	80	
71	71	60-75
60	61	
54	55	
44	45	35-46
41	42	
34	35	
23	24	
18	19	11-19
12	14	
6	8	
3 6	5 0	2 0-5 5

E PROPERTIES

	COARSE	FINE	COMBINED
SP GR	2.663	2.634	2.647
GR	2 684	2.661	2 671
T SP GR	2 719	2 706	2.712
ION	0 776	1 010	0 903
IVALENT			78
ITY INDEX			NP
FACES			81
RASION "B"			
REV % LOSS			4
REV % LOSS			20

DESIGN DATA

SPECIMEN	A	B	C	D	SPEC
BIT GRADE/SP GR	AC-20	1 022			
% OF BITUMEN	4 0	4 5	5.0	4.7	
BULK DENSITY (pcf)	146.8	147 5	149 4	148 3	
MARSHALL STABILITY (lb)	3400	3385	3834	3564	3000 min
FLOW	9	8	8	8	8-16
% AIR VOIDS	6.0	4.9	2 9	4 1	3 8-4 2
% VMA	14 8	14 8	14 1	14.5	14 5-17.0
% AIR VOIDS FILLED	59 1	67 1	79 7	72 0	
% EFF ASP TOTAL MIX	3.79	4 29	4.79	4 49	

IMMERSION COMPRESSION

SAMPLE	AIR PSI	H2O PSI	RETENTION	% AC
NO.1	525.7	422.5	80 4	4.7
NO.2				
NO.3				

* RECOMMENDED BITUMEN CONTENT (%) = 4 7

ADDITIONAL DATA

MAXIMUM DENSITY	154 6 PCF @ 4 7 %
ASPHALT ABSORPTION ON DRY AGG (%)	0 22
ASPHALT TYPE	AC-20
ASPHALT SOURCE	SHELL - MARTINEZ
ADMIX TYPE	TYPE II PORTLAND CEMENT
ADMIX SOURCE	ARIZONA PORTLAND CEMENT

Registered Professional Engineer CERTIFICATE NO. 9998 DONALD E. GREEN 7/23/93 ARIZONA, U.S.A.

CENTRAL FILES

Building tomorrow today

The Tanner Companies, United Metro Materials Division, 701 N. 44th St. P.O. Box 52140, Phoenix, Arizona 85072-2140 (602) 275-7000

July 23, 1993

The Tanner Companies, Construction Division
P.O. Box 52151, 3888 E. Broadway
Phoenix AZ 85072

RE: ASPHALTIC CONCRETE SUBMITTAL FOR
IM 10-2(146) TRACS: H2936 01C & I 10-1-509 TRACS: H 3242 01C
EHRENBERG-PHX HWY(TONOPAH-SR 85) & (OLD CAMP WASH-COYOTE WASH)

Gentlemen:

Transmitted herewith is an asphaltic concrete mix design for the above referenced project. It was prepared by the United Metro Materials Division Central Laboratory to meet the requirements for ADOT 3/4" AC Base. This mix is proposed use as Item Number 4060017.

This proposed mix will be produced at United Metro Number 01, located at 3640 S. 19th Avenue, Phoenix, Arizona. It will consist of aggregates produced from the Salt River, an AC-20 Asphalt Cement and a mineral admixture. The asphalt cement is supplied and produced by Shell-Martinez. The mineral admixture will be a Type II Portland Cement.

This attachment includes the results of all mix design testing. They are provided for your review and Owner approval. The asphaltic concrete described thereon should be ordered as Product Code 34703A.

This proposed mix design has been developed to meet all specified material characteristics. United Metro will produce the mixture within the production limits of ADOT Specifications, which should assure reasonable compactability. Therefore, United Metro will not assume any liability for penalties related to compaction deficiencies when material characteristics are within the specification limits.

If any questions should arise, do not hesitate to contact the undersigned at 220-5633.

Respectfully Submitted,

Donald E. Green, P.E.
Director of Asphalt Concrete
Region Seven

Attachments

ESIGN DATA AR1Z 815c (MARSHALL MIX DESIGN METHOD FOR ASPHALTIC CONCRETE)

:R CONSTRUCTION

NBURG - PHOENIX HWY (TONOPAH - SR 85)

ON: ADOT AC BASE

PLES STOCKPILES

53A

DATE 7/23/93

PROJECT NO:IM 10-2(146)

SOURCE OF MAT'L UNITED METRO PLANT 1

SAMPLED BY A. GREEN

PERCENT MINERAL ADMIX: 1 5

ADMIX	SPEC #	SSD WEIGHT	H20 WEIGHT	AIR WEIGHT	SPECIFIC GRAVITY	UNIT WEIGHT	HEIGHT	DIAL READING	STABILITY	FACTOR	CORRECTED STABILITY	FLOW
	1	1191 4	688 4	1190 1	2.366	147 4	2 469	231	3250	1 02	3315	9
1 5%	2	1179 0	677 7	1177 1	2.348	146 3	2.436	248	3500	1.04	3640	9
	3	1182 2	680 7	1180.0	2 353	146.6	2.458	224	3150	1 03	3245	8
	AVG				2.356	146 8					3400	9
	1	1186 4	682.8	1184 6	2.352	146.5	2.445	210	2950	. 04	3068	8
1 5%	2	1181 8	684.4	1180 5	2.373	147 9	2.439	223	3150	1 04	3276	7
	3	1201 5	696.0	1201 1	2.376	148.0	2.458	265	3700	1.03	3811	9
	AVG				2.367	147 5					3385	8
	1	1199 6	698.8	1199 4	2.395	149 2	2 416	273	3850	1.06	4081	7
1 5%	2	1197 1	699 2	1196 9	2 404	149 8	2.411	280	3950	1.06	4187	8
	3	1195 3	696.9	1195.0	2.398	149.4	2.409	215	3050	1.06	3233	9
	AVG				2.399	149 4					3834	8

COMPOSITE GRADATION AR1Z 210b (DRY PREPARATION AND THE SIEVING OF COARSE AND FINE GRADED SOILS AND AGGREGATES)

CLIENT TANNER CONSTRUCTION

PROJECT: ENRENBURG - PHOENIX HWY (TONOPAH - SR 85)

MIX DESIGNATION: ADOT AC BASE

SOURCE OF SAMPLES: STOCKPILES

LAB NO: 93-053A

DATE 7/23/93

PROJECT NO IM 10-2(146)

SOURCE OF MAT'L. UNITED METRO PLANT 1

SAMPLED BY: A. GREEN

PERCENT MINERAL ADMIX 1 5

ORIGINAL GRADATION-% PASSING

MAT'L NAME	MAT'L 1 M.A. FINES	MAT'L 2 WASHED CRUSHER FINES	MAT'L 3 WASHED FINES	MAT'L 4 M.A. 3/8"	MAT'L 5 M.A 1/2"	MAT'L 6 M.A. 3/4"	COMPOSITE % PASS (w/o ADMIX)	COMPOSITE % PASS (w/ADMIX)	GRADATION SPECS	SIEVE
% USED	23	10	20	10	13	24				
SIEVE										
1-1/4"	100 0	100 0	100 0	100 0	100 0	100 0	100	100	100	1-1/4"
1"	100 0	100 0	100 0	100 0	100.0	100.0	100	100	90-100	1"
3/4"	100 0	100 0	100 0	100 0	100 0	71 2	93	93	85-95	3/4"
1/2"	100 0	100 0	100 0	100.0	100 0	16 6	80	80		1/2"
3/8"	100.0	100 0	100 0	100 0	47 7	6.8	71	71	60-75	3/8"
1/4"	100 0	100 0	100 0	64.8	1 5	1 1	60	61		1/4"
#4	95.3	100 0	99 1	22 1	0 7	0 7	54	55		#4
#8	75 9	90.3	84.0	2 0	0 7	0 4	44	45	36-46	#8
#10	72.2	80 6	80 0	1 9	0 7	0 4	41	42		#10
#16	62.1	57 2	67 4	1 0	0 6	0 3	34	35		#16
#30	46.6	37 3	43 3	0 9	0 6	0 3	23	24		#30
#40	37 4	28.2	29.7	0 8	0 6	0 3	18	19	11-19	#40
#50	29 4	19 4	17 8	0 8	0 6	0 2	12	14		#50
#100	19 0	7 6	5 2	0 7	0 6	0 1	6	8		#100
#200	12.0	2 6	2 2	0 4	0 5	0.1	3.6	5.0	2.0-5 5	#200

3/4

23.0 13.0 100 80 28.0 18.0

3/4 1/2 3/8

ER ON COHESION OF BITUMINOUS MIXTURES ARIZ 802g (EFFECT OF WATER ON COMPACTED BITUMINOUS MIXTURES)

ER CONSTRUCTION

ENBURG - PHOENIX HWY (TONOPAH - SR 85)

ION ADOT AC BASE

MPLES STOCKPILES

-053A

DATE. 7/23/93

PROJECT NO. IM 10-2(146)

SOURCE OF MAT'L: UNITED METRO PLANT 1

SAMPLED BY: A. GREEN

PERCENT MINERAL ADMIX: 1.5

PERCENT ASPHALT: 4.7

HEIGHT	SSD WT	H2O WT	AIR WT	SP GR	DENSITY	AVG SP GR	AVG DENSITY
3.909	1811.3	1022.7	1805.5	2.290	142.6		
3.911	1804.6	1021.6	1798.5	2.297	143.1		
3.902	1809.8	1021.2	1804.1	2.288	142.5	2.291	142.7
3.905	1806.0	1019.1	1795.6	2.282	142.2		
3.914	1817.7	1029.1	1807.8	2.292	142.8		
3.904	1787.4	1013.1	1779.2	2.298	143.2		

SITY OF STABILITY SPECIMENS = 148.3

NSITY = IMC DENSITY/STAB DENSITY x 100 = 142.7/148.3 x 100 = 96.2

2750 PSI

- STRENGTH OF DRY SPECIMENS:

LOAD FAIL POINT	AVG LOAD FAIL PT	PSI
6598		
6665	6609	525.7
6563		

VE STRENGTH OF WET SPECIMENS:

LOAD FAIL POINT	AVG LOAD FAIL PT	PSI
5135		
5160	5310	422.5
5636		

RETAINED STRENGTH = PSI(WET)/PSI(DRY) x 100 = 422.5/525.7 x 100 = 80.4

MIX DESIGN VOID CALCULATIONS

CLIENT. TANNER CONSTRUCTION

PROJECT: EHRENBURG - PHOENIX HWY (TONOPAH - SR 85)

MIX DESIGNATION: ADOT AC BASE

SOURCE OF SAMPLES STOCKPILES

LAB NO: 93-053A

DATE 7/23/93

PROJECT NO: IM 10-2(146)

SOURCE OF MAT'L UNITED METRO PLANT 1

SAMPLED BY: A. GREEN

PERCENT MINERAL ADMIX: 1.5

SPECIFIC GRAVITY DATA

ARIZ 211b (SPECIFIC GRAVITY AND ABSORPTION OF FINE AGGREGATE)

AASHTO T85 (SPECIFIC GRAVITY AND ABSORPTION OF COARSE AGGREGATE)

	COARSE AGG	FINE AGG	COMBINED AGG
BULK OD	2.663	2.634	2.647
SSD	2.684	2.661	2.671
APPARENT	2.719	2.706	2.712
ABSORPTION	0.776	1.010	0.903

RICE TEST DATA ARIZ 806e (MAXIMUM THEORETICAL SPECIFIC GRAVITY OF LABORATORY PREPARED BITUMINOUS MIXTURES)

VOLUME	MIX SP GR	WTD	%AC	ASPHALT SP GR	SAMPLE WEIGHT	EFFECTIVE SP GR	ASPHALT ABSORPTION
4.35 &	2.429	151.3	6.0	1.022	1058.5	2.663	0.222

VOID CALCULATIONS ARIZ 815c (MARSHALL MIX DESIGN METHOD FOR ASPHALTIC CONCRETE)

%AC	SP GR	UNIT WT	% AGG	% ADMIX	TOTAL % ADMIX	AGG VOLUME	ADMIX VOLUME	EFFECTIVE ASPHALT	ASPHALT VOLUME	VMA	EFFECTIVE VOIDS	VOIDS FILLED
4.0	2.356	146.8	94.581	1.5	1.419	84.159	1.064	3.790	8.736	14.776	6.040	59.123
4.5	2.367	147.5	94.089	1.5	1.411	84.131	1.064	4.291	9.940	14.805	4.865	67.138
5.0	2.399	149.4	93.596	1.5	1.404	84.089	1.073	4.792	11.249	14.119	2.870	79.672
4.7	2.380	148.3	93.892	1.5	1.408	84.403	1.067	4.492	10.460	14.529	4.069	71.991

ADDITIONAL TEST DATA

CLIENT TANNER CONSTRUCTION

DATE 7/23/93

PROJECT: EHRENBURG - PHOENIX HWY (TONOPAH - SR 85)

PROJECT NO: IM 10-2(146)

MIX DESIGNATION: ADOT AC BASE

SOURCE OF MAT'L UNITED METRO PLANT 1

SOURCE OF SAMPLES: STOCKPILES

SAMPLED BY R. GREEN

LAB NO 93-053A

PERCENT MINERAL ADMIX 1.5

AGGREGATE SPECIFIC GRAVITIES ARIZ 211b (FINE AGGREGATE), AASHTO T85 (COARSE AGGREGATE)

MAT'L	COARSE AGGREGATE	FINE AGGREGATE
S.S.D. WT.	3014.0	500.0
O.D WT	2990.8	495.0
IMMERSED WT	1890.9	984.5
FLASK & H2O	-	672.4
BULK O.D. SP GR.	2.663	2.634
S.S.D. SP GR.	2.684	2.661
APPARENT SP GR	2.719	2.706
% ABSORPTION	0.776	1.010

RICE TEST ARIZ 806e (MAXIMUM THEORETICAL SPECIFIC GRAVITY OF LABORATORY PREPARED BITUMINOUS MIXTURES)

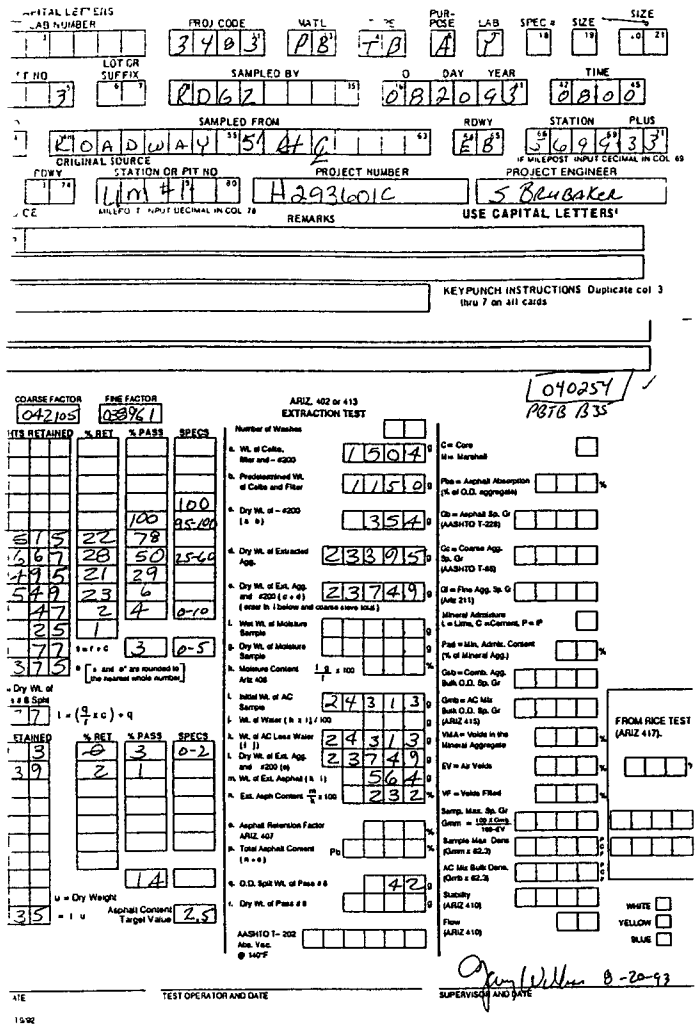
	SAMPLE WT (DRY)	FLASK + H2O	SAMPLE + FLASK + H2O	SAMPLE WT (S.S.D.)	SAMPLE VOLUME	MAXIMUM SP. GR.	MAXIMUM DENSITY
1	1050.2	3765.8	4384.2	1051.0	432.6	2.428	151.2
2	1063.6	3846.0	4472.3	1064.6	438.3	2.427	151.2
3	1061.8	3862.9	4488.8	1062.5	436.6	2.432	151.5
AVG	1058.5				435.8	2.429	151.3

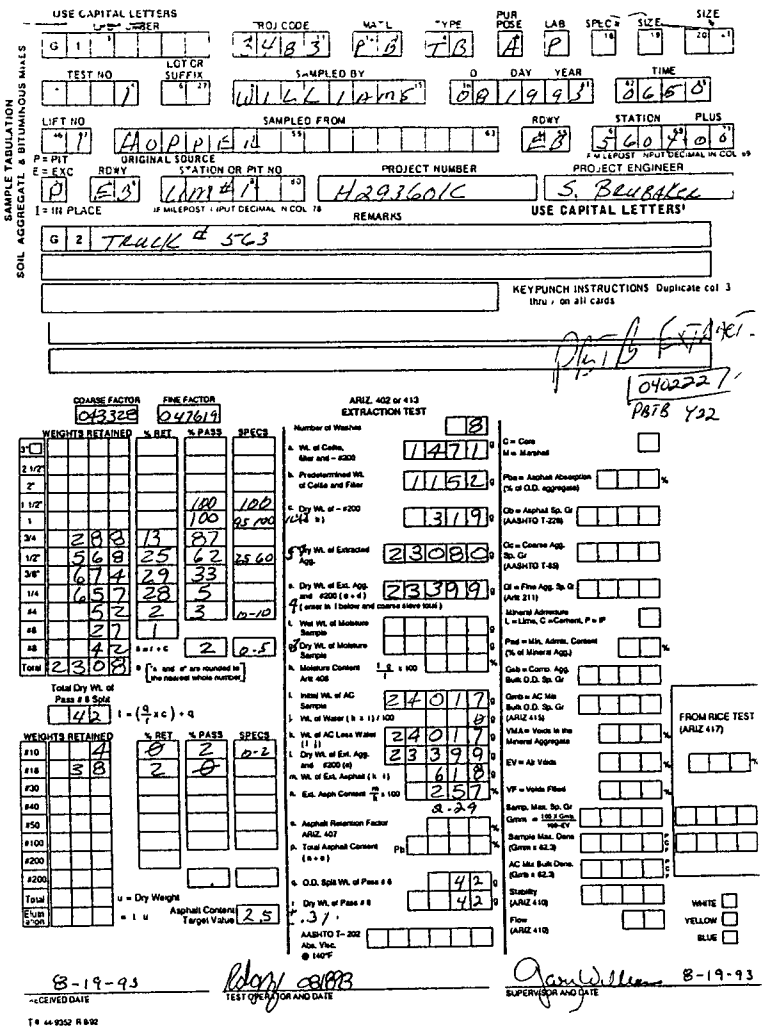
SAND EQUIVALENT AASHTO T176 (PLASTIC FINES IN GRADED AGGREGATES AND SOILS BY USE OF THE SAND EQUIVALENT TEST)

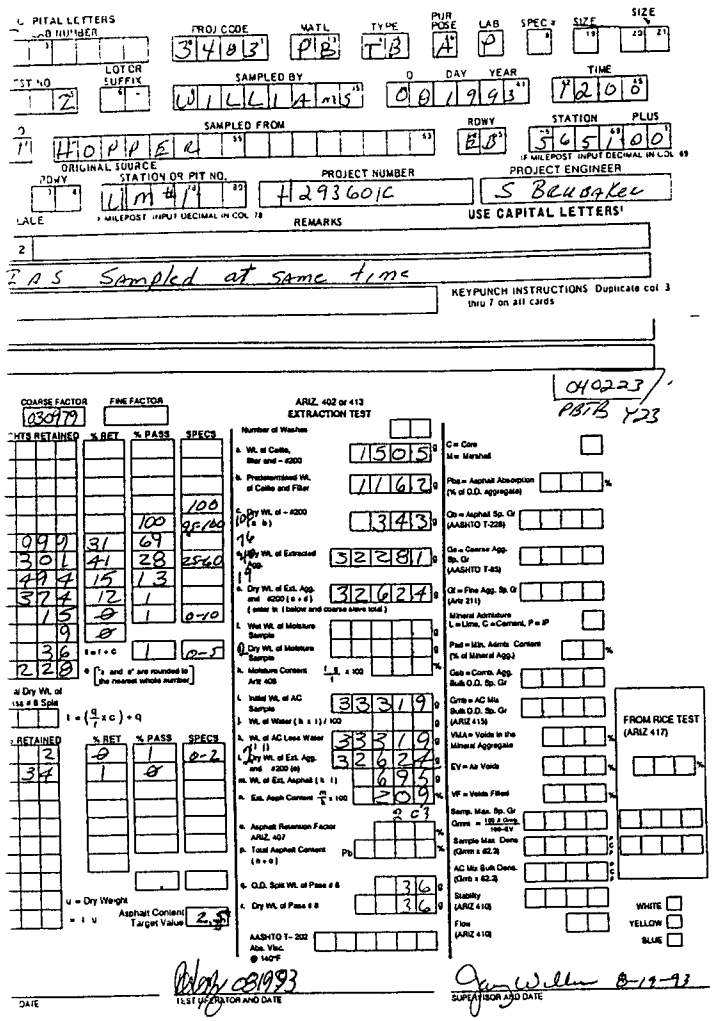
	#1	#2	#3	AVG
SAND	4.0	3.9	4.0	
CLAY	5.4	5.0	5.0	
S.E.	75	78	80	78

CRUSHED FACES ARIZ 212d (PERCENTAGE OF CRUSHED PARTICLES IN COVER MATERIAL OR MINERAL AGGREGATE)

TOTAL SAMPLE WT	WT CRUSHED	% CRUSHED FACES
302.5	245.4	81.1


USE CAPITAL LETTERS
LAB NUMBER
PROJ CODE 3403
MATL PB
TYPE TB
PURPOSE A
LAB P
SPEC #
SIZE
SIZE .0
LOT OR SUFFIX
SAMPLED BY RDGZ
DAY 08
YEAR 94
TIME 0800
SAMPLED FROM ROADWAY 51 AT G
RDWY EB
STATION 569+33
PLUS
ORIGINAL SOURCE
STATION OR PIT NO LM #19
PROJECT NUMBER H2936 01C
PROJECT ENGINEER S BRUBAKER
REMARKS
USE CAPITAL LETTERS
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards
040254
PBTB B35
COARSE FACTOR 04210S
FINE FACTOR 03861
ARIZ. 402 or 413 EXTRACTION TEST
WEIGHTS RETAINED
% RET
% PASS
SPECS
100
95-100
78
50
25-60
29
6
4
0-10
3
0-5
Total Dry Wt. of Pass # 8 Split
Asphalt Content Target Value 2.5
Number of Washes
a. Wt. of Cello, filter and – #200 1504
b. Predetermined Wt. of Cello and Filter 1150
c. Dry Wt. of – #200 (a – b) 354
d. Dry Wt. of Extracted Agg. 2390S
e. Dry Wt. of Ext. Agg. and #200 (c + d) 2374
f. Wet Wt. of Moisture Sample
g. Dry Wt. of Moisture Sample
h. Moisture Content Arlz 406
i. Initial Wt. of AC Sample 2431
j. Wt. of Water (h x i) / 100
k. Wt. of AC Less Water (i – j) 2431
l. Dry Wt. of Ext. Agg. and #200 (e) 2374
m. Wt. of Ext. Asphalt (k – l) 564
n. Ext. Asph Content m/k x 100 23.2
o. Asphalt Retention Factor ARIZ. 407
p. Total Asphalt Content (n + o) Pb
q. O.D. Split Wt. of Pass # 8 42
r. Dry Wt. of Pass # 8
AASHTO T– 202 Abs. Visc. @ 140°F
C = Core
M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate)
Gb = Asphalt Sp. Gr (AASHTO T-228)
Gc = Coarse Agg. Sp. Gr (AASHTO T-85)
Gf = Fine Agg. Sp. G (Arlz 211)
Mineral Admixture L = Lime, C = Cement, P = IP
Pad = Min. Admix. Content (% of Mineral Agg.)
Gsb = Comb. Agg. Bulk O.D. Sp. Gr
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 415)
VMA = Voids in the Mineral Aggregate
EV = Air Voids
VF = Voids Filled
Samp. Max. Sp. Gr
Gmm = 100 x Gmb / (100–EV)
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3)
Stability (ARIZ 410)
Flow (ARIZ 410)
FROM RICE TEST (ARIZ 417).
WHITE
YELLOW
BLUE
DATE
TEST OPERATOR AND DATE
SUPERVISOR AND DATE
8-20-93
1992


SAMPLE TABULATION
SOIL AGGREGATE & BITUMINOUS MIXES
USE CAPITAL LETTERS
LAB NUMBER G 1
PROJ CODE 3403
MATL PB
TYPE TB
PURPOSE A
LAB P
SPEC #
SIZE
SIZE .1
TEST NO 1
LOT OR SUFFIX
SAMPLED BY WILLIAMS
DAY 08
YEAR 93
TIME 0650
LIFT NO 1
P = PIT
E = EXC
I = IN PLACE
SAMPLED FROM HOPPER
ORIGINAL SOURCE
RDWY EB
STATION OR PIT NO LM #19
PROJECT NUMBER H2936 01C
PROJECT ENGINEER S. BRUBAKER
REMARKS
USE CAPITAL LETTERS
G 2 TRUCK # 563
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards
040222
PBTB Y22
COARSE FACTOR 04332S
FINE FACTOR 04761S
ARIZ. 402 or 413 EXTRACTION TEST
WEIGHTS RETAINED
% RET
% PASS
SPECS
100
100
95-100
13
87
25
62
25-60
29
33
28
5
2
3
10-10
1
2
0-5
Total Dry Wt. of Pass # 8 Split 42
Asphalt Content Target Value 2.5
Number of Washes 8
a. Wt. of Cello, filter and – #200 1471
b. Predetermined Wt. of Cello and Filter 1162
c. Dry Wt. of – #200 (a – b) 319
d. Dry Wt. of Extracted Agg. 2308
e. Dry Wt. of Ext. Agg. and #200 (c + d) 2339
f. Wet Wt. of Moisture Sample
g. Dry Wt. of Moisture Sample
h. Moisture Content Arlz 406
i. Initial Wt. of AC Sample 2401
j. Wt. of Water (h x i) / 100 8
k. Wt. of AC Less Water (i – j) 2401
l. Dry Wt. of Ext. Agg. and #200 (e) 2339
m. Wt. of Ext. Asphalt (k – l) 618
n. Ext. Asph Content m/k x 100 2.29
o. Asphalt Retention Factor ARIZ. 407
p. Total Asphalt Content (n + o) Pb
q. O.D. Split Wt. of Pass # 8 42 42
r. Dry Wt. of Pass # 8 .37
AASHTO T– 202 Abs. Visc. @ 140°F
C = Core
M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate)
Gb = Asphalt Sp. Gr (AASHTO T-228)
Gc = Coarse Agg. Sp. Gr (AASHTO T-85)
Gf = Fine Agg. Sp. G (Arlz 211)
Mineral Admixture L = Lime, C = Cement, P = IP
Pad = Min. Admix. Content (% of Mineral Agg.)
Gsb = Comb. Agg. Bulk O.D. Sp. Gr
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 415)
VMA = Voids in the Mineral Aggregate
EV = Air Voids
VF = Voids Filled
Samp. Max. Sp. Gr
Gmm = 100 x Gmb / (100–EV)
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3)
Stability (ARIZ 410)
Flow (ARIZ 410)
FROM RICE TEST (ARIZ 417)
WHITE
YELLOW
BLUE
8-19-93
RECEIVED
TEST OPERATOR AND DATE
SUPERVISOR AND DATE
8-19-93
T# 44-9352 R 8-92



SAMPLE TABULATION
SOIL AGGREGATE & BITUMINOUS MIXES

PROJ CODE 3403 | MATL PB | TYPE TB | PURPOSE A | LAB P | SPEC # | SIZE | SIZE
TEST NO 2 | LOT OR SUFFIX | SAMPLED BY JCLLAMS | DAY 19 | YEAR 93 | TIME 1200
SAMPLED FROM HOPPER | ROWY EB | STATION 565+00 | PLUS
ORIGINAL SOURCE | STATION OR PIT NO. M#1 | PROJECT NUMBER H293601C | PROJECT ENGINEER S Beuhaker
LACE | MILEPOST INPUT DECIMAL IN COL 78 | REMARKS | USE CAPITAL LETTERS!
2 | PAS Sampled at same time
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

040223 PBTB Y23

COARSE FACTOR 03079 | FINE FACTOR

ARIZ. 402 or 413 EXTRACTION TEST

WEIGHTS RETAINED	% RET	% PASS	SPECS
			100
		100	95-100
099	31	69	
301	41	28	25-60
494	15	13	
574	12	1	
15	0	1	0-10
9	0		
36	1		0-5
1220			

a = [ ] x 100 / c
b and d are rounded to the nearest whole number

Number of Washes
a. Wt. of Cells, Filler and #200: 1505
b. Predetermined Wt. of Cells and Filler: 1762
c. Dry Wt. of #200 (a - b): 343
d. Dry Wt. of Extracted Agg.: 32281
e. Dry Wt. of Ext. Agg. and #200 (c + d) (enter in 1 below and coarse sieve total): 32624
f. Wet Wt. of Moisture Sample
g. Dry Wt. of Moisture Sample
h. Moisture Content Arlt 408: f/g x 100
i. Initial Wt. of AC Sample: 3319
j. Wt. of Water (h x 1) / 100
k. Wt. of AC Less Water (i - j): 3319
l. Dry Wt. of Ext. Agg. and #200 (e): 32624
m. Wt. of Ext. Asphalt (k - l): 695
n. Ext. Asph Content m/k x 100: 2.09
o. Asphalt Retention Factor ARIZ. 407: 2.03
p. Total Asphalt Content (n + o): Pb
q. O.D. Split Wt. of Pass # 8: 3636
r. Dry Wt. of Pass # 8: 3636
AASHTO T-202 Abs. Visc. @ 140°F

C = Coarse, M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate)
Gb = Asphalt Sp. Gr (AASHTO T-228)
Gc = Coarse Agg. Sp. Gr (AASHTO T-85)
Gf = Fine Agg. Sp. Gr (Arlt 211)
Mineral Admixture L = Lime, C = Cement, P = IP
Pad = Min. Admix Content (% of Mineral Agg.)
Gab = Comb. Agg. Bulk O.D. Sp. Gr
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 415)
VMA = Voids in the Mineral Aggregate
EV = Air Voids
VF = Voids Filled
Samp. Max. Sp. Gr Gmm = 100 / (Gmb/Gb + 100 - Gb)
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3)
Stability (ARIZ 410)
Flow (ARIZ 410)

FROM RICE TEST (ARIZ 417)
WHITE
YELLOW
BLUE

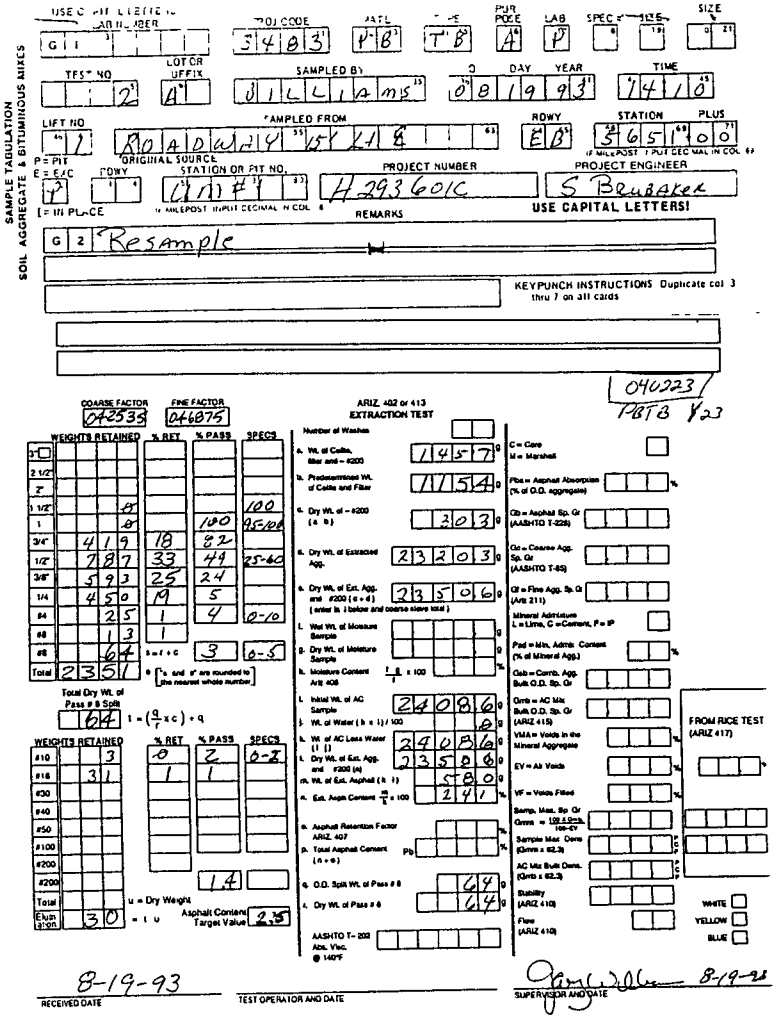
Dry Wt. of Split Pass #8 Split: 64
t = (q/r x c) + q

WEIGHTS RETAINED	% RET	% PASS	SPECS
2	0	1	0-2
34	1	0	

u = Dry Weight
t = t u
Asphalt Content Target Value 2.5

DATE
8-19-93
TEST OPERATOR AND DATE
SUPERVISOR AND DATE

J R 3-92



SAMPLE TABULATION
SOIL AGGREGATE & BITUMINOUS MIXES

USE CAPITAL LETTERS | PROJ CODE 3403 | MATL PB | TYPE TB | PURPOSE A | LAB P | SPEC # | SIZE | SIZE
LOT NO G1 | TEST NO 2 | LOT OR SUFFIX A | SAMPLED BY JCLLAMS | DAY 19 | YEAR 93 | TIME 1410
LIFT NO 1 | SAMPLED FROM ROADWAY | ROWY EB | STATION 565+00 | PLUS
P = PIT, E = EXC, F = IN PLACE | ORIGINAL SOURCE | STATION OR PIT NO. M#1 | PROJECT NUMBER H293601C | PROJECT ENGINEER S Beuhaker
MILEPOST INPUT DECIMAL IN COL 6 | REMARKS | USE CAPITAL LETTERS!
G 2 Resample
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

040223 PBTB Y23

COARSE FACTOR 042535 | FINE FACTOR 046075

ARIZ. 402 or 413 EXTRACTION TEST

WEIGHTS RETAINED	% RET	% PASS	SPECS
			100
		100	95-100
419	18	82	
787	33	49	25-60
593	25	24	
450	19	5	
25	1	4	0-10
13	1		
64	3		0-5
2350			

a = [ ] x 100 / c
b and d are rounded to the nearest whole number

Number of Washes
a. Wt. of Cells, Filler and #200: 1457
b. Predetermined Wt. of Cells and Filler: 1754
c. Dry Wt. of #200 (a - b): 303
d. Dry Wt. of Extracted Agg.: 23203
e. Dry Wt. of Ext. Agg. and #200 (c + d) (enter in 1 below and coarse sieve total): 23506
f. Wet Wt. of Moisture Sample
g. Dry Wt. of Moisture Sample
h. Moisture Content Arlt 408: f/g x 100
i. Initial Wt. of AC Sample: 24086
j. Wt. of Water (h x 1) / 100
k. Wt. of AC Less Water (i - j): 24086
l. Dry Wt. of Ext. Agg. and #200 (e): 23506
m. Wt. of Ext. Asphalt (k - l): 580
n. Ext. Asph Content m/k x 100: 2.41
o. Asphalt Retention Factor ARIZ. 407
p. Total Asphalt Content (n + o): Pb
q. O.D. Split Wt. of Pass # 8: 64
r. Dry Wt. of Pass # 8: 64
AASHTO T-202 Abs. Visc. @ 140°F

C = Coarse, M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate)
Gb = Asphalt Sp. Gr (AASHTO T-228)
Gc = Coarse Agg. Sp. Gr (AASHTO T-85)
Gf = Fine Agg. Sp. Gr (Arlt 211)
Mineral Admixture L = Lime, C = Cement, P = IP
Pad = Min. Admix Content (% of Mineral Agg.)
Gab = Comb. Agg. Bulk O.D. Sp. Gr
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 415)
VMA = Voids in the Mineral Aggregate
EV = Air Voids
VF = Voids Filled
Samp. Max. Sp. Gr Gmm = 100 / (Gmb/Gb + 100 - Gb)
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3)
Stability (ARIZ 410)
Flow (ARIZ 410)

FROM RICE TEST (ARIZ 417)
WHITE
YELLOW
BLUE

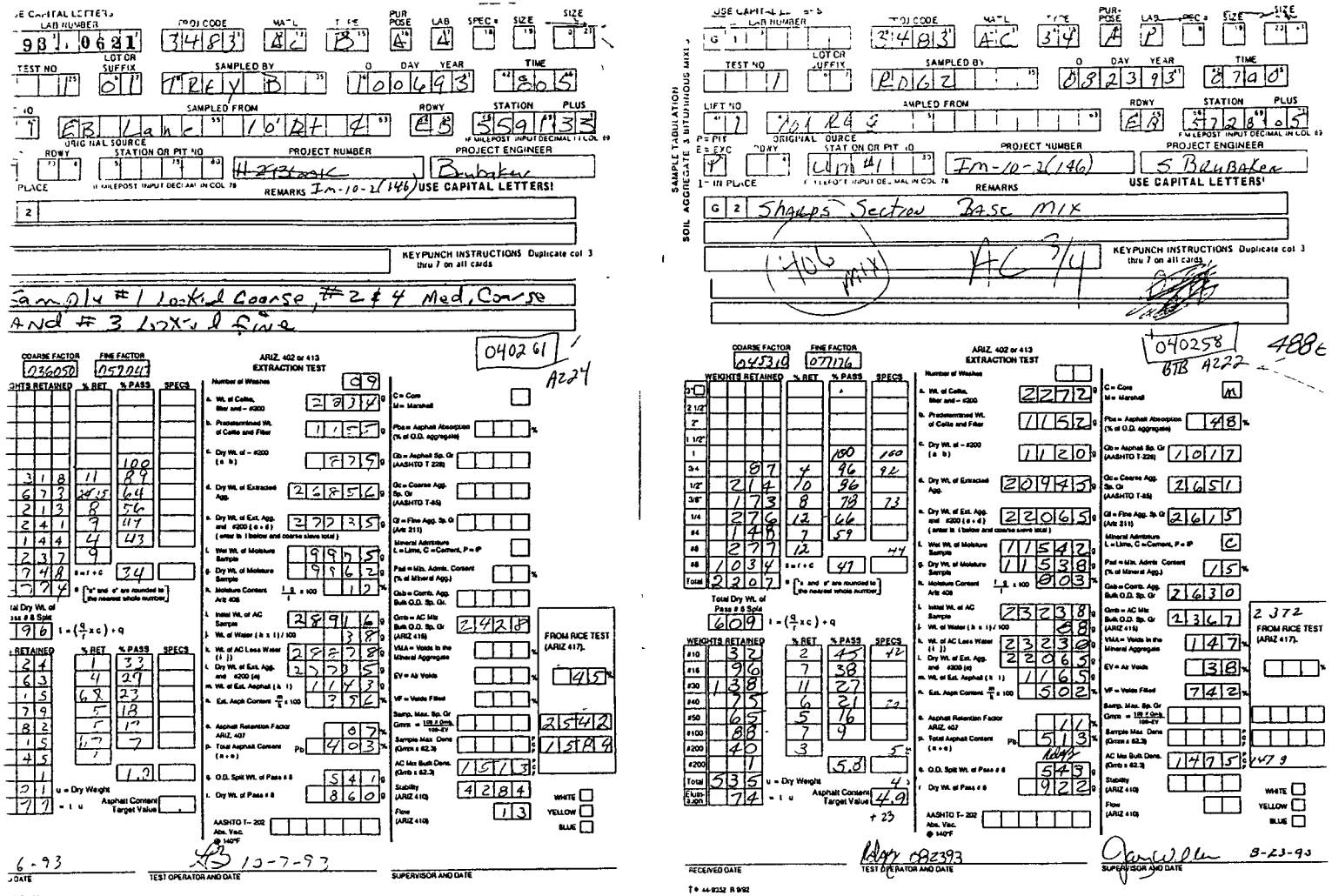
Dry Wt. of Split Pass #8 Split: 64
t = (q/r x c) + q

WEIGHTS RETAINED	% RET	% PASS	SPECS
3	0	2	0-2
31	1	1	
30			

u = Dry Weight
t = t u
Asphalt Content Target Value 2.5

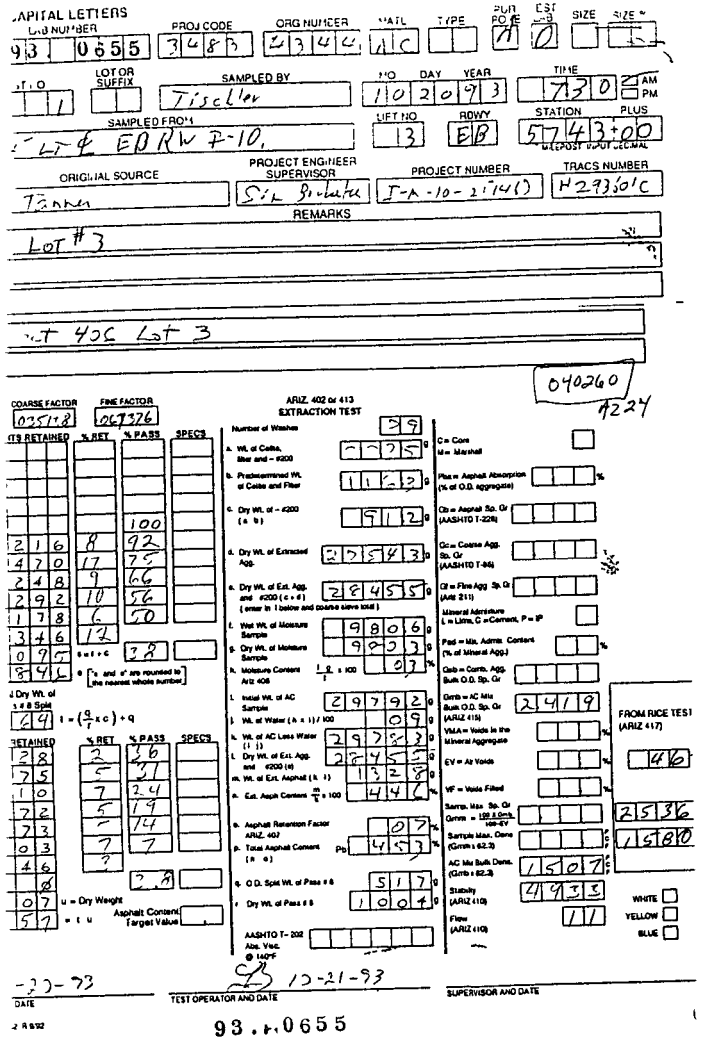
8-19-93
RECEIVED DATE
TEST OPERATOR AND DATE
SUPERVISOR AND DATE

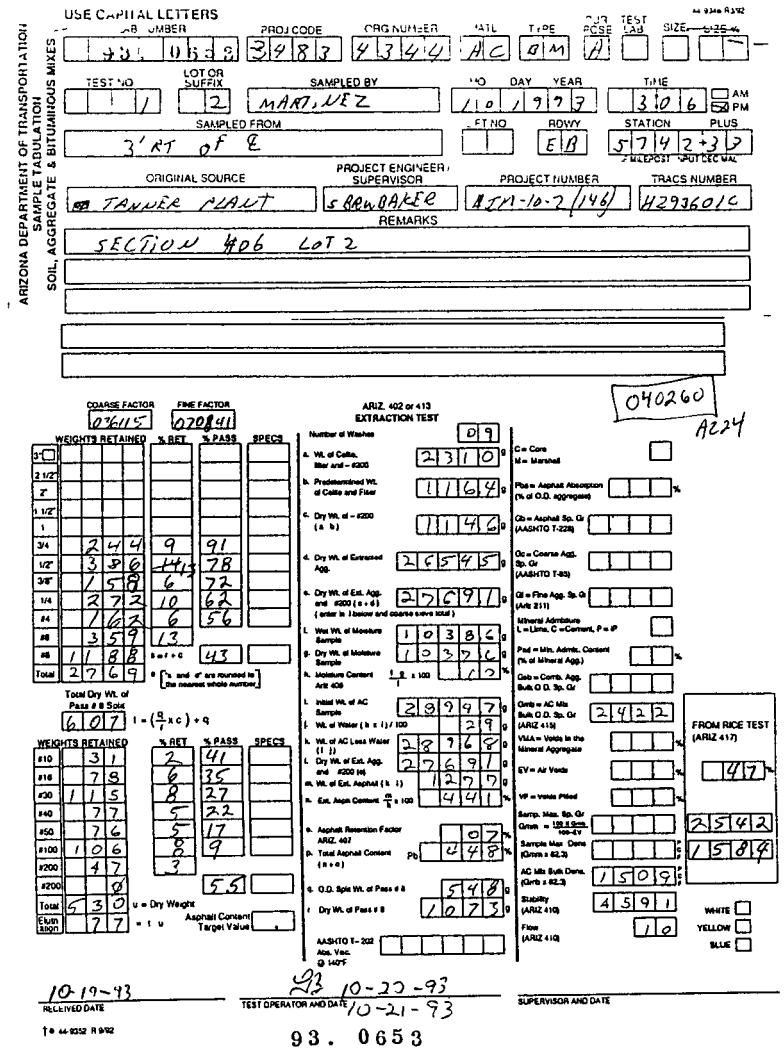
† ● 44-9252 R 8-92

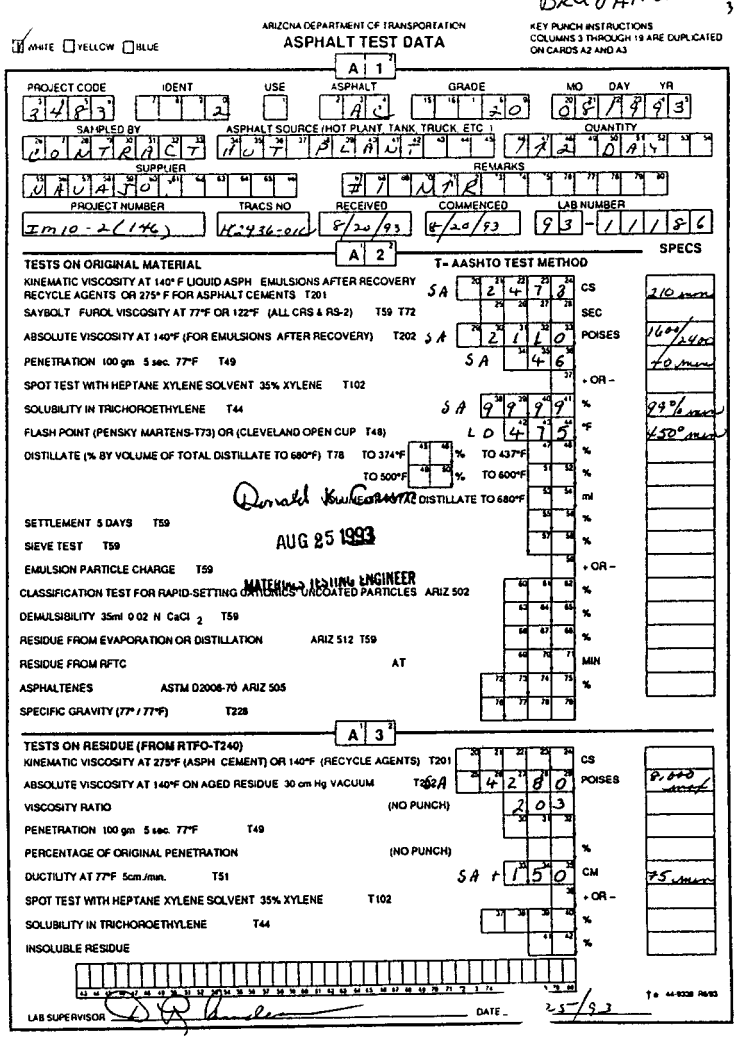


USE CAPITAL LETTERS
LAB NUMBER 93 0621
PROJ CODE 3483
MAT'L AC
TYPE B
PURPOSE A
LAB A
SPEC #
SIZE
SIZE
TEST NO
LOT OR SUFFIX 01
SAMPLED BY REY B
DAY 06
YEAR 93
TIME 1315
LIFT NO 1
SAMPLED FROM EB Lane 16' Dt 4
ROWY EB
STATION 591 PLUS 33
ORIGINAL SOURCE
STATION OR PIT NO
PROJECT NUMBER H-293(00)K
PROJECT ENGINEER Brubaker
REMARKS Im-10-2(146)
USE CAPITAL LETTERS!
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards
Sample #1 Locked Coarse, #2 & 4 Med, Coarse
And #3 Locked Fine
040261
A224
COARSE FACTOR 036050
FINE FACTOR 057043
ARIZ. 402 or 413 EXTRACTION TEST
Number of Washes 99
a. Wt. of Cello, filter and – #200 2014
b. Predetermined Wt. of Cello and Filter 1155
c. Dry Wt. of – #200 (a – b) 8719
d. Dry Wt. of Extracted Agg. 26856
e. Dry Wt. of Ext. Agg. and #200 (c + d) (enter in 1 below and coarse sieve total) 27735
f. Wet Wt. of Moisture Sample 9907.5
g. Dry Wt. of Moisture Sample 9896.2
h. Moisture Content f/g x 100 Ariz 406 1.2
i. Initial Wt. of AC Sample 2891.6
j. Wt. of Water (h x 1)/100 3.8
k. Wt. of AC Less Water (i - j) 2887.8
l. Dry Wt. of Ext. Agg. and #200 (e) 2750.5
m. Wt. of Ext. Asphalt (k - l) 137.3
n. Ext. Asph Content m/i x 100 4.76
o. Asphalt Retention Factor ARIZ. 427 .07
p. Total Asphalt Content (n + o) Pb 4.03
q. O.D. Split Wt. of Pass # 8 5410
r. Dry Wt. of Pass # 8 8610
AASHTO T– 202 Abs. Visc. @ 140°F
C = Conv M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate)
Gb = Asphalt Sp. Gr (AASHTO T 228)
Gc = Coarse Agg. Sp. Gr (AASHTO T-85)
Gf = Fine Agg. Sp. Gr (Ariz 211)
Mineral Admixture L = Lime, C = Cement, P = IP
Pad = Min. Admix. Content (% of Mineral Agg.)
Gsb = Comb. Agg. Bulk O.D. Sp. Gr.
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 416) 2.419
VMA = Voids in the Mineral Aggregate
EV = Air Voids
VF = Voids Filled
Samp. Max. Sp. Gr Gmm = 100 x Comb. 100-EV
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3)
Stability (ARIZ 410) 4284
Flow (ARIZ 410) 13
FROM RICE TEST (ARIZ 417).
1.415
2.542
1.519
WHITE
YELLOW
BLUE
WEIGHTS RETAINED | % RET | % PASS | SPECS
3/4 | 18 | 11 | 89
1/2 | 673 | 2015 | 64
3/8 | 213 | 8 | 56
#4 | 241 | 9 | 47
#8 | 144 | 4 | 43
#16 | 237 | 9 |
#30 | 748 | | 34
#50 | 374 | 8 |
Total Dry Wt. of Pass # 8 Split 916
t = (q/r x c) + q
WEIGHTS RETAINED | % RET | % PASS | SPECS
#10 | 24 | 1 | 33
#16 | 63 | 4 | 29
#30 | 15 | 6.8 | 23
#40 | 79 | 5 | 18
#50 | 82 | 5 | 13
#100 | 15 | 11.7 | 7
#200 | 45 | 7 |
Pan | 21 | | 1.2
Total | 711
u = Dry Weight
= t u
Asphalt Content Target Value
6-93
DATE
10-7-93
TEST OPERATOR AND DATE
SUPERVISOR AND DATE
93. 0621
B-23

USE CAPITAL LETTERS
LAB NUMBER G
PROJ CODE 2483
MAT'L AC
TYPE 3/4
PURPOSE A
LAB P
SPEC #
SIZE
SIZE
TEST NO 1
LOT OR SUFFIX
SAMPLED BY RDIAZ
DAY 08
YEAR 93
TIME 0740
LIFT NO 1
SAMPLED FROM Rt 9
ROWY EB
STATION 472 PLUS 05
P = PIT E = EXC
ORIGINAL SOURCE
ROWY
STATION OR PIT NO
PROJECT NUMBER Im-10-2(146)
PROJECT ENGINEER S BRUBAKER
1 – IN PLACE
REMARKS
USE CAPITAL LETTERS!
SOIL AGGREGATE & BITUMINOUS MIXES
G 2 Shaws Section Base Mix
(146 MIX) AC 3/4
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards
040258
488e
BTB A222
COARSE FACTOR 045310
FINE FACTOR 077106
ARIZ. 402 or 413 EXTRACTION TEST
Number of Washes M
a. Wt. of Cello, filter and – #200 2272
b. Predetermined Wt. of Cello and Filter 1152
c. Dry Wt. of – #200 (a – b) 1120
d. Dry Wt. of Extracted Agg. 20975
e. Dry Wt. of Ext. Agg. and #200 (c + d) (enter in 1 below and coarse sieve total) 22065
f. Wet Wt. of Moisture Sample 1154.2
g. Dry Wt. of Moisture Sample 1153.8
h. Moisture Content f/g x 100 Ariz 406 0.3
i. Initial Wt. of AC Sample 2323.8
j. Wt. of Water (h x 1)/100 3.8
k. Wt. of AC Less Water (i - j) 2320.0
l. Dry Wt. of Ext. Agg. and #200 (e) 2206.5
m. Wt. of Ext. Asphalt (k - l) 113.5
n. Ext. Asph Content m/i x 100 5.02
o. Asphalt Retention Factor ARIZ. 427 .11
p. Total Asphalt Content (n + o) Pb 5.13 4.92
q. O.D. Split Wt. of Pass # 8 5453
r. Dry Wt. of Pass # 8 5212
AASHTO T– 202 Abs. Visc. @ 140°F
C = Conv M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate) .48
Gb = Asphalt Sp. Gr (AASHTO T-228) 1.017
Gc = Coarse Agg. Sp. Gr (AASHTO T-85) 2.657
Gf = Fine Agg. Sp. Gr (Ariz 211) 2.615
Mineral Admixture L = Lime, C = Cement, P = IP C
Pad = Min. Admix. Content (% of Mineral Agg.) 1.5
Gsb = Comb. Agg. Bulk O.D. Sp. Gr. 2.630
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 416) 2.367
VMA = Voids in the Mineral Aggregate 14.7
EV = Air Voids 3.8
VF = Voids Filled 74.2
Samp. Max. Sp. Gr
Gmm = 100 x Comb. 100-EV
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3) 147.5
Stability (ARIZ 410)
Flow (ARIZ 410)
2.372 FROM RICE TEST (ARIZ 417).
WHITE
YELLOW
BLUE
WEIGHTS RETAINED | % RET | % PASS | SPECS
2 1/2" | | | 100
2" | | | 100
1 1/2" | | | 100
1" | | | 100
3/4 | 07 | 4 | 96 | 92
1/2 | 214 | 10 | 96
3/8 | 173 | 8 | 78 | 73
#4 | 276 | 12 | 66
#8 | 148 | 7 | 59
#16 | 277 | 12 | 47
#30 | 1034 | 47
#50 | 2207
Total Dry Wt. of Pass # 8 Split 609
t = (q/r x c) + q
WEIGHTS RETAINED | % RET | % PASS | SPECS
#10 | 32 | 2 | 45 | 42
#16 | 96 | 7 | 38
#30 | 138 | 11 | 27
#40 | 75 | 6 | 21 | 22
#50 | 65 | 5 | 16
#100 | 88 | 7 | 9
#200 | 40 | 3 | 5.8 | 5
Pan | 1
Total 535
u = Dry Weights
= t u 74
Asphalt Content Target Value 4.9
+ 23
AASHTO T– 202 Abs. Visc. @ 140°F
RECEIVED DATE
TEST OPERATOR AND DATE
8-23-93
SUPERVISOR AND DATE


CAPITAL LETTERS
LAB NUMBER
PROJ CODE
ORG NUMBER
MATL
TYPE
PUR POSE
EST LAB
SIZE
SIZE
93 0655
3485
2314
AC
A
0
TEST NO
LOT OR SUFFIX
SAMPLED BY
MO
DAY
YEAR
TIME
AM
PM
Tisdlar
10 20 93
710
SAMPLED FROM
LFT NO
ROWY
STATION
PLUS
MILEPOST
PUT DECIMAL
LT & EBRW P-10,
13
EB
57 43 +00
ORIGINAL SOURCE
PROJECT ENGINEER SUPERVISOR
PROJECT NUMBER
TRACS NUMBER
Tanner
Sil Bolatta
I-A-10-2(141)
H293601C
REMARKS
Lot #3
...T 406 Lot 3
040260
A224
COARSE FACTOR
0351.8
FINE FACTOR
067376
ARIZ 402 or 413 EXTRACTION TEST
WEIGHTS RETAINED
% RET
% PASS
SPECS
100
2 1/2
2 16 8 92
1 1/2
1 4 7 0 17 75
3/4 2 4 8 9 66
1/2 2 9 2 10 56
3/8 1 7 8 6 50
#4 3 4 6 12
#8 0 9 7 3.8
#16 0 7 4
#30 5 7
Total 8 4 6
Dry Wt. of Split
6 4
t = (B/T x C) + 9
WEIGHTS RETAINED
% RET
% PASS
SPECS
#10 2 8 2 36
#16 7 5 5 31
#30 1 0 7 24
#40 7 2 5 19
#50 7 3 7 14
#100 0 3 7 7
#200 4 6 7
Pan Ø
0 7
5 7
u = Dry Weight
t = t u
Asphalt Content
Target Value
2.8
Number of Washes
3 9
a. Wt. of Cotton, filter and – #200
2 7 5 0
b. Predetermined Wt. of Cotton and Filter
1 1 6 3
c. Dry Wt. of – #200 (a - b)
9 1 2
d. Dry Wt. of Extracted Agg.
2 7 5 4 3
e. Dry Wt. of Ext. Agg. and #200 (c + d) (enter in 1 below and coarse sieve total)
2 8 4 5 5
f. Wet Wt. of Moisture Sample
9 8 0 6
g. Dry Wt. of Moisture Sample
9 9 0 3
h. Moisture Content Ariz 406
0 7
i. Initial Wt. of AC Sample
2 9 7 9 2
j. Wt. of Water (h x i)/100
0 9
k. Wt. of AC Less Water (i - j)
2 9 7 8 3
l. Dry Wt. of Ext. Agg. and #200 (e)
2 8 4 5 5
m. Wt. of Ext. Asphalt (k - l)
1 3 2 8
n. Ext. Asph Content (m/k x 100)
4 4 7
o. Asphalt Retention Factor ARIZ. 407
0 7
p. Total Asphalt Content (n + o)
Pb
4 5 3
q. O.D. Split Wt. of Pass # 8
5 1 7
r. Dry Wt. of Pass # 8
1 0 0 4
AASHTO T- 202 Abs. Visc. @ 140°F
C = Coal
M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate)
Gb = Asphalt Sp. Gr (AASHTO T-228)
Gc = Coarse Aggr. Sp. Gr (AASHTO T-85)
Gf = Fine Agg. Sp. Gr (Ariz 211)
Mineral Admixture L = Lime, C = Cement, P = IP
Pad = Min. Admix. Content (% of Mineral Agg.)
Gsb = Comb. Agg. Bulk O.D. Sp. Gr
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 415)
2 4 1 9
VMA = Voids in the Mineral Aggregate
EV = Air Voids
VF = Voids Filled
Samp. Max. Sp. Gr. Gmm = 100 x Gmb / 100-EV
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3)
1 5 0 7
Stability (ARIZ 410)
4 9 3 3
Flow (ARIZ 410)
1 7
FROM RICE TEST (ARIZ 417)
4 6
2 5 3 6
1 5 8 0
WHITE
YELLOW
BLUE
-20-93
DATE
10-21-93
TEST OPERATOR AND DATE
SUPERVISOR AND DATE
93.0655


ARIZONA DEPARTMENT OF TRANSPORTATION
SAMPLE TABULATION
SOIL, AGGREGATE & BITUMINOUS MIXES
USE CAPITAL LETTERS
LAB NUMBER
PROJ CODE
ORG NUMBER
MATL
TYPE
PUR POSE
TEST LAB
SIZE
93 0653
3487
4344
AC
BM
A
TEST NO
LOT OR SUFFIX
SAMPLED BY
MO
DAY
YEAR
TIME
AM
PM
1
2
MARTINEZ
10 19 93
310
SAMPLED FROM
LFT NO
ROWY
STATION
PLUS
MILEPOST
PUT DECIMAL
3' RT of ℄
EB
57 42 +32
ORIGINAL SOURCE
PROJECT ENGINEER SUPERVISOR
PROJECT NUMBER
TRACS NUMBER
TANNER PLANT
S BRAMBAKER
AIM-10-2(146)
H293601C
REMARKS
SECTION #06 LOT 2
040260
A224
COARSE FACTOR
076115
FINE FACTOR
070841
ARIZ 402 or 413 EXTRACTION TEST
WEIGHTS RETAINED
% RET
% PASS
SPECS
3"
2 1/2
2
1 1/2
1
3/4 2 4 4 9 91
1/2 3 3 6 14 78
3/8 1 5 8 6 72
1/4 2 7 2 10 62
#4 7 6 2 6 56
#8 3 5 9 13
#16 1 1 8 8
Total 2 7 6 9
Dry Wt. of Pass # 8 Split
6 0 7
t = (B/T x C) + 9
WEIGHTS RETAINED
% RET
% PASS
SPECS
#10 3 1 2 41
#16 7 9 6 35
#30 1 1 5 8 27
#40 7 7 5 22
#50 7 6 5 17
#100 1 0 6 8 9
#200 4 7 3
#200 Ø
Total 6 3 0
Elutriation 7 7
u = Dry Weight
t = t u
Asphalt Content
Target Value
5.5
Number of Washes
0 9
a. Wt. of Cotton, filter and – #200
2 3 1 0
b. Predetermined Wt. of Cotton and Filter
1 1 6 4
c. Dry Wt. of – #200 (a - b)
1 1 4 6
d. Dry Wt. of Extracted Agg.
2 6 5 4 5
e. Dry Wt. of Ext. Agg. and #200 (c + d) (enter in 1 below and coarse sieve total)
2 7 6 9 1
f. Wet Wt. of Moisture Sample
1 0 3 8 2
g. Dry Wt. of Moisture Sample
1 0 3 7 6
h. Moisture Content Ariz 406
1 0
i. Initial Wt. of AC Sample
2 9 9 7
j. Wt. of Water (h x i)/100
2 9
k. Wt. of AC Less Water (i - j)
2 8 7 6 8
l. Dry Wt. of Ext. Agg. and #200 (e)
2 7 6 9 1
m. Wt. of Ext. Asphalt (k - l)
1 2 7 7
n. Ext. Asph Content (m/k x 100)
4 4 1
o. Asphalt Retention Factor ARIZ. 407
0 7
p. Total Asphalt Content (n + o)
Pb
4 4 8
q. O.D. Split Wt. of Pass # 8
5 4 8
r. Dry Wt. of Pass # 8
1 0 7 3
AASHTO T- 202 Abs. Visc. @ 140°F
C = Coal
M = Marshall
Pba = Asphalt Absorption (% of O.D. aggregate)
Gb = Asphalt Sp. Gr (AASHTO T-228)
Gc = Coarse Aggr. Sp. Gr (AASHTO T-85)
Gf = Fine Agg. Sp. Gr (Ariz 211)
Mineral Admixture L = Lime, C = Cement, P = IP
Pad = Min. Admix. Content (% of Mineral Agg.)
Gsb = Comb. Agg. Bulk O.D. Sp. Gr
Gmb = AC Mix Bulk O.D. Sp. Gr (ARIZ 415)
2 4 2 2
VMA = Voids in the Mineral Aggregate
EV = Air Voids
VF = Voids Filled
Samp. Max. Sp. Gr. Gmm = 100 x Gmb / 100-EV
Sample Max. Dens (Gmm x 62.3)
AC Mix Bulk Dens. (Gmb x 62.3)
1 5 0 9
Stability (ARIZ 410)
4 5 9 1
Flow (ARIZ 410)
1 0
FROM RICE TEST (ARIZ 417)
4 1 7
2 5 4 2
1 5 8 4
WHITE
YELLOW
BLUE
10-19-93
RECEIVED DATE
10-20-93
10-21-93
TEST OPERATOR AND DATE
SUPERVISOR AND DATE
93. 0653



Bru Baker 3

☑ WHITE ☐ YELLOW ☐ BLUE

ARIZONA DEPARTMENT OF TRANSPORTATION

ASPHALT TEST DATA

KEY PUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 19 ARE DUPLICATED ON CARDS A2 AND A3

A 1

PROJECT CODE	IDENT	USE	ASPHALT	GRADE	MO	DAY	YR
2483	2		AC	20	08	19	93

SAMPLED BY	ASPHALT SOURCE (HOT PLANT, TANK, TRUCK, ETC.)	QUANTITY
JOMTRACT	HOT PLANT	1200

SUPPLIER	REMARKS
MAJAVO	#1 MTR

PROJECT NUMBER	TRACS NO	RECEIVED	COMMENCED	LAB NUMBER
IM10-2(174)	H6936-01C	8/20/93	8/20/93	93-1118 6

A 2

TESTS ON ORIGINAL MATERIAL (T= AASHTO TEST METHOD)			SPECS
KINEMATIC VISCOSITY AT 140° F LIQUID ASPH EMULSIONS AFTER RECOVERY RECYCLE AGENTS OR 275° F FOR ASPHALT CEMENTS T201	SA	274 CS	210 min
SAYBOLT FUROL VISCOSITY AT 77°F OR 122°F (ALL CRS & RS-2) T59 T72		SEC	
ABSOLUTE VISCOSITY AT 140°F (FOR EMULSIONS AFTER RECOVERY) T202	SA	2100 POISES	1600/2400
PENETRATION 100 gm 5 sec. 77°F T49	SA	46	40 min
SPOT TEST WITH HEPTANE XYLENE SOLVENT 35% XYLENE T102		+ OR -	
SOLUBILITY IN TRICHOROETHYLENE T44	SA	9997 %	99% min
FLASH POINT (PENSKY MARTENS-T73) OR (CLEVELAND OPEN CUP T48)	LD	475 °F	450° min
DISTILLATE (% BY VOLUME OF TOTAL DISTILLATE TO 680°F) T78 TO 374°F % TO 437°F		%	
TO 500°F % TO 600°F		%	
Donald K. Sweeney DISTILLATE TO 680°F		ml	
SETTLEMENT 5 DAYS T59		%	
SIEVE TEST T59 AUG 25 1993		%	
EMULSION PARTICLE CHARGE T59		+ OR -	
CLASSIFICATION TEST FOR RAPID-SETTING CATIONICS UNCOATED PARTICLES ARIZ 502 MATERIALS TESTING ENGINEER		%	
DEMULSIBILITY 35ml 0 02 N $CaCl_2$ T59		%	
RESIDUE FROM EVAPORATION OR DISTILLATION ARIZ 512 T59		%	
RESIDUE FROM RFTC AT		MIN	
ASPHALTENES ASTM D2006-70 ARIZ 505		%	
SPECIFIC GRAVITY (77° / 77°F) T228			

A 3

TESTS ON RESIDUE (FROM RTFO-T240)			SPECS
KINEMATIC VISCOSITY AT 275°F (ASPH CEMENT) OR 140°F (RECYCLE AGENTS) T201		CS	
ABSOLUTE VISCOSITY AT 140°F ON AGED RESIDUE 30 cm Hg VACUUM T202	SA	4280 POISES	9,000 max
VISCOSITY RATIO (NO PUNCH)		2.03	
PENETRATION 100 gm 5 sec. 77°F T49			
PERCENTAGE OF ORIGINAL PENETRATION (NO PUNCH)		%	
DUCTILITY AT 77°F 5cm./min. T51	SA	150 CM	75 min
SPOT TEST WITH HEPTANE XYLENE SOLVENT 35% XYLENE T102		+ OR -	
SOLUBILITY IN TRICHOROETHYLENE T44		%	
INSOLUBLE RESIDUE		%	

† ● 44-9208 R6/93

LAB SUPERVISOR S. R. Bruder DATE 8/25/93

...ONTRACT ... AND THE SIEVING OF COARSE AND FINE GRADED SOILS AND AGGREGATES)

...ER CONSTRUCTION

...ENIX - PHOENIX HWY (TONOPAH - S R 85)

...: ADOT AC BASE (4 0)

...PLES: STOCKPILES

...-084

DATE 10/1/93

PROJECT NO: IM-10-2(146)

SOURCE OF MAT'L C A T PROVING GROUNDS & PALMER PIT

SAMPLED BY: TANNER CONST

PERCENT MINERAL ADMIX: 1 0

ORIGINAL GRADATION-% PASSING

...AT'L 1 MAT'L 2 MAT'L 3 MAT'L 4 MAT'L 5 MAT'L 6

% M ...INES	CRUSHER FINES	WASHED SAND	M A. INTER	M A. COARSE	COMPOSITE % PASS (w/o ADMIX)	COMPOSITE % PASS (w/ADMIX)	GRADATION SPECS	SIEVE
18	10	14	15	43				
...0 0	100 0	...00 0	100 0	100 0	...00	100	...00	1-1/4"
...00 0	100 0	100 0	100 0	100 0	100	100	90-100	1"
...0 0	...00 0	100 0	...00 0	79 7	91	91	85-95	3/4"
...0 0	...00 0	100 0	100 0	32 0	71	71		1/2"
99 8	100 0	100 0	100 0	14 8	63	64	60-75	3/8"
98.7	100 0	99 2	67 0	4 4	54	54		1/4"
96 5	100 0	97 8	36 0	2 9	48	48		#4
90 0	68 9	92 2	8 2	1 9	38	39	36-46	#8
87 8	57 4	90 1	7 0	1 8	36	37		#10
81 4	30 7	80 8	5 4	1 6	31	31		#16
63.9	17 1	57 9	4 3	1 5	23	23		#30
50 0	15.0	41 5	3.9	1 4	17	18	10-18	#40
33.4	12 9	24 2	3 5	1 4	12	13		#50
12 4	9 9	6 4	2 8	1 3	5	6		#100
5 6	7 2	2.5	2 0	0 9	2 8	3.7	2 0-5 5	#200

...A FINES , PALMER PIT
...USHER FINES ; C.A.T PROVING GROUNDS
...SHED SAND ; PALMER PIT
...A INTERMEDIATE ; C.A.T PROVING GROUNDS
...A COARSE ; C.A.T PROVING GROUNDS

TANNER COMPANIES CENTRAL LABORATORY - MARSHALL MIX DESIGN REPORT

ADOT BASE (MARSHALL MIX DESIGN METHOD FOR ASPHALTIC CONCRETE)

CLIENT TANNER CONSTRUCTION

PROJECT: ENNISBURG - PHOENIX HWY (TONOPAH - S.R. 85)

MIX DESIGNATION ADOT AC BASE (4 0)

SOURCE OF SAMPLES: STOCKPILES

LAB NO. 93-084

DATE 10/1/93

PROJECT NO:IM-10-2(146)

SOURCE OF MAT'L C.A.T PROVING GROUNDS & PALMER PIT

SAMPLED BY:TANNER CONST

PERCENT MINERAL ADMIX: 1 0

COMPOSITE GRADATION

MATERIAL		%	MATERIAL		%
M.A.	FINES	18	M.A	FINES	17 8
CRUSHER	FINES	10	CRUSHER	FINES	9 9
WASHED	SAND	14	WASHED	SAND	13 9
M.A.	INTER	15	M A.	INTER	14 9
M A.	COARSE	43	M A	COARSE	42.6
			ADMIX		1 0

SIEVE	W/O ADMIX % PASSING	W/ADMIX % PASSING	SPEC LIMITS
1-1/2"	100	100	100
1"	100	100	90-100 ✓
3/4"	91	91	85-95 ✓
1/2"	71	71	
3/8"	63	64	60-75 ✓
1/4"	54	54	
#4	48	48	
#8	38	39	36-46 ✓
#10	36	37	
#16	31	31	
#30	23	23	
#40	17	18	10-18 ✓
#50	12	13	
#100	5	6	
#200	2 8	3 7	2 0-5 5 ✓

AGGREGATE PROPERTIES

	COARSE	FINE	COMBINED	
BULK OD SP GR	2.701	2 655	2 679	✓
SSD SP GR	2 722	2.680	2.702	
APPARENT SP GR	2.759	2.722	2 741	
ABSORPTION	0 771	0 929	0 847	✓
SAND EQUIVALENT			76	✓
PLASTICITY INDEX			NP	
CRUSHED FACES			91	✓
L.A. ABRASION "B"				
100 REV % LOSS			7	✓
500 REV % LOSS			27	✓

DESIGN DATA

SPECIMEN	A	B	C	D	SPEC
BIT GRADE/SP GR	AC-40	1 023			
% OF BITUMEN	4 0	4 5	5 0	4 2	
BULK DENSITY (pcf)	148 5	49 6	150 6	148 9	
MARSHALL STABILITY (lb)	4465	4388	4446	4434 ✓	3000 min
FLOW	8	8	9	9 ✓	8-16
% AIR VOIDS	6 7	5 3	3.8	6 ✓	5 8-6 2
% VMA	14 7	14 5	14 3	14 6 ✓	14 5-17 0
% AIR VOIDS FILLED	54 6	63 7	73 5	58 2	
% EFF ASP TOTAL MIX	3.45	3 95	4 45	3 65	

IMMERSION COMPRESSION

SAMPLE	AIR PSI	H20 PSI	RETENTION	% AC	SPEC.
NO 1	427 7	351 7 ✓	82.2 ✓	4 2	50 min.
NO.2					
NO 3					

RECOMMENDED BITUMEN CONTENT (%) = 4 2

CERTIFICATE NO. 9395 DONALD E. GREEN Registered Professional Engineer (Civil) 10/11/93 ARIZONA U.S.A.

ADDITIONAL DATA

MAXIMUM DENSITY	158 6 PCF @	4 2 %
ASPHALT ABSORPTION ON DRY AGG (%)		0.58 ✓
ASPHALT TYPE	AC-40 ✓	
ASPHALT SOURCE	NAVAJO WESTERN	
ADMIX TYPE	TYPE II PORTLAND CEMENT	✓
ADMIX SOURCE	ARIZONA PORTLAND CEMENT	

OID CALCULATIONS

ER CONSTRUCTION

ENBURG - AMDENIX MIX (TONOPAH - S R 85)

TION HDOT AC BASE (4 6)

MPLES, STOCKPILES

-084

DATE: 10/1/93

PROJECT NO IM-10-2(146)

SOURCE OF MATL: C & T PROVING GROUNDS & PALMER PIT

SAMPLED BY: TANNER CONST

PERCENT MINERAL ADMIX: 1 0

AVITY DATA

COARSE AGG	FINE AGG	COMBINED AGG
2.701	2.655	2 679
2.722	2.680	2 702
2.759	2.722	2 741
0.771	0 929	0 847

ARIZ 211b (SPECIFIC GRAVITY AND ABSORPTION OF FINE AGGREGATE)

AASHTO T85 (SPECIFIC GRAVITY AND ABSORPTION OF COARSE AGGREGATE)

DATA ARIZ 806a (MAXIMUM THEORETICAL SPECIFIC GRAVITY OF LABORATORY PREPARED BITUMINOUS MIXTURES)

MIX SP GR	MTD	AAC	ASPHALT SP GR	SAMPLE WEIGHT	EFFECTIVE SP GR	ASPHALT ABSORPTION
2.474	154 1	6.0	1 023	1059 2	2.721	0.584

ATIONS ARIZ 815c (MARSHALL MIX DESIGN METHOD FOR ASPHALTIC CONCRETE)

SP GR	UNIT WT	% AGG	% ADMIX	TOTAL % ADMIX	AGG VOLUME	ADMIX VOLUME	EFFECTIVE ASPHALT	ASPHALT VOLUME	VMA	EFFECTIVE VOIDS	VOIDS FILLED
2 384	148 5	95.050	1 0	0 950	84 575	0 722	3.445	8.027	14 703	6 676	54.596
2 401	149 6	94 554	1 0	0.946	84 731	0 723	3.948	9 264	14 546	5 282	63.689
2 420	150 8	94 059	1 0	0 941	84 960	0 725	4 451	10 528	14 315	3.787	73 545
2 390	148 9	94 851	1 0	0 949	84 638	0 722	3.646	8.520	14 640	6 120	58.199

MIX DESIGN DATA (MARSHALL METHOD FOR ASPHALTIC CONCRETE)

CLIENT: TANNER CONSTRUCTION

PROJECT: ENTRADA - AMDENIX MIX (TONOPAH - S R 85)

MIX DESIGNATION: HDOT AC BASE (4 6)

SOURCE OF SAMPLES: STOCKPILES

LAB NO: 93-084

DATE: 10/ /93

PROJECT: IM-10-2(146)

SOURCE OF MATL: C & T PROVING GROUNDS & PALMER PIT

SAMPLED BY: TANNER CONST

PERCENT MINERAL ADMIX: 1 0

AAC	ADMIX	SPEC #	SSD WEIGHT	H2O WEIGHT	AIR WEIGHT	SPECIFIC GRAVITY	UNIT WEIGHT	HEIGHT	DIAL READING	STABILITY	FACTOR	CORRECTED STABILITY	FLOW
		1	1181 5	683 6	1180 1	2 384	147 5	2 447	252	3550	1 03	3656	8
4 00	1 0%	2	1183 1	691 0	1.78 4	2 395	149 2	2 416	321	4550	1 06	4823	7
		3	1171 2	681 3	1170 0	2.388	148 6	2 387	329	4550	1 08	4914	8
		AVG				2.384	148 5					4465	8
		1	1183.2	691 0	1176 2	2.394	149 1	2 418	315	4450	1 05	4673	8
4.50	1 0%	2	1189 8	694 6	1189 1	2 401	149 6	2 422	299	4250	1 05	4463	8
		3	1179 7	689 8	1179 1	2.407	149 9	2.410	272	3800	1.06	4028	8
		AVG				2 401	149 6					4388	8
		1	1182.2	692 7	1179 0	2.409	150 1	2.422	264	3700	1 05	3885	9
5.00	1 0%	2	1176.6	693.3	1176 0	2.433	151 6	2.378	327	4550	1.09	4960	8
		3	1176.4	689 9	1176 1	2.417	150 6	2 400	294	4200	1 07	4494	9
		AVG				2.420	150 8					4446	9

TEST DATA

ANNER CONSTRUCTION	DATE 10/1/93
EHRENBURG - PHOENIX HWY (TONOPAH - S R 85)	PROJECT NO: IM-10-2(146)
AT ON ADOT AC BASE (4 6)	SOURCE OF MAT'L: C A.T PROVING GROUNDS & PALMER PIT
SAMPLES STOCKPILES	SAMPLED BY: TANNER CONST
93-084	PERCENT MINERAL ADMIX: 1.0

SPECIFIC GRAVITIES ARIZ 2'1b (FINE AGGREGATE) ; AASHTO T85 (COARSE AGGREGATE)

MAT'L	COARSE AGGREGATE	FINE AGGREGATE
S S.D WT.	3006 0	500 0
O.D. WT	2983 0	495 4
MMERSED WT	1901 7	987 6
LASK & H2O	-	674 2
BULK O.D SP GR.	2 701	2 655
S.S.D. SP GR.	2.722	2.680
APPARENT SP GR	2.759	2 722
% ABSORPTION	0 771	0 929

ARIZ 806a (MAXIMUM THEORETICAL SPECIFIC GRAVITY OF LABORATORY PREPARED BITUMINOUS MIXTURES)

SAMPLE WT (DRY)	FLASK + H2O	SAMPLE + FLASK + H2O	SAMPLE WT (S S D.)	SAMPLE VOLUME	MAXIMUM SP. GR.	MAXIMUM DENSITY
1058 9	3763.6	4396 0	1059 8	427 4	2 478	154 4
1057.2	3843 2	4474 6	1058 3	426 9	2.476	154 3
1061 5	3859 8	4492 2	1062.4	430 0	2.469	153 8
1059 2				428 1	2.474	154 1

VALENT AASHTO T176 (PLASTIC FINES IN GRADED AGGREGATES AND SOILS BY USE OF THE SAND EQUIVALENT TEST)

# 1	# 2	# 3	AVG
4.0	4 2	4 0	
5.4	5 5	5 3	
75	77	76	76

ACES ARIZ 212d (PERCENTAGE OF CRUSHED PARTICLES IN COVER MATERIAL OR MINERAL AGGREGATE)

OTAL SAMPLE WT	WT. CRUSHED	% CRUSHED FACES
300 7	272 4	90 6

OF WATER ON COHESION OF BITUMINOUS MIXTURES ARIZ 806g (EFFECT OF WATER ON COMPACTED BITUMINOUS MIXTURES)

CLIENT: TANNER CONSTRUCTION	DATE 10/1/93
PROJECT: EHRENBURG - PHOENIX HWY (TONOPAH - S R 85)	PROJECT NO: IM-10-2(146)
MIX DESIGNATION ADOT AC BASE (416)	SOURCE OF MAT'L C.A.T PROVING GROUNDS & PALMER PIT
SOURCE OF SAMPLES: STOCKPILES	SAMPLED BY: TANNER CONST
LAB NO: 93-084	PERCENT MINERAL ADMIX. 1 0
	PERCENT ASPHALT: 4 2

SPEC #	HEIGHT	SSD WT	H2O WT	AIR WT	SP GR	DENSITY	AVG SP GR	AVG DENSITY
1	4 057	1902 5	1081 2	1890 0	2.301	143.4		
2	4 033	1893 1	1070 9	1889.5	2 298	143 2		
3	4 012	1895.7	1077 9	1890 7	2.312	144 0	2.305	143.6
4	4 035	1899 1	1078 4	1895.6	2.310	143 9		
5	4 031	1888 8	1069 6	1885 9	2.302	143 4		
6	4 017	1900 3	1079 9	1892.5	2 307	143 7		

DESIGN DENSITY OF STABILITY SPECIMENS = 148.9

% OF LAB DENSITY = IMC DENSITY/STAB DENSITY x 100 = 143 6/148 9 x 100 = 96 4

LOAD = 2750 PSI

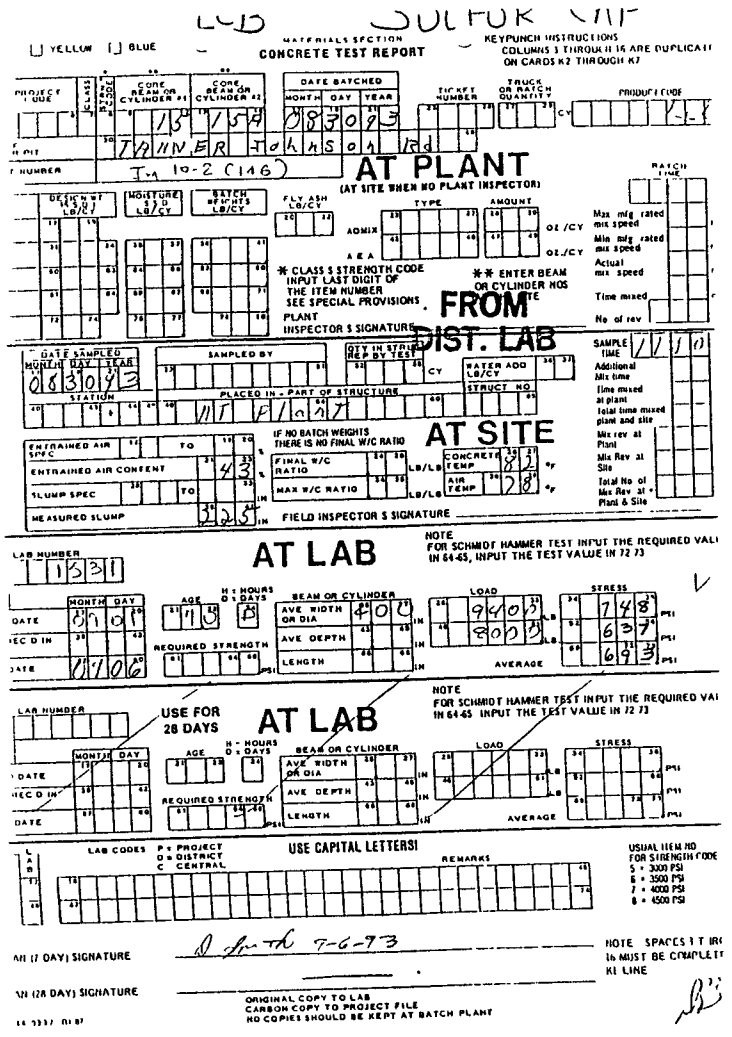
COMPRESSIVE STRENGTH OF DRY SPECIMENS.

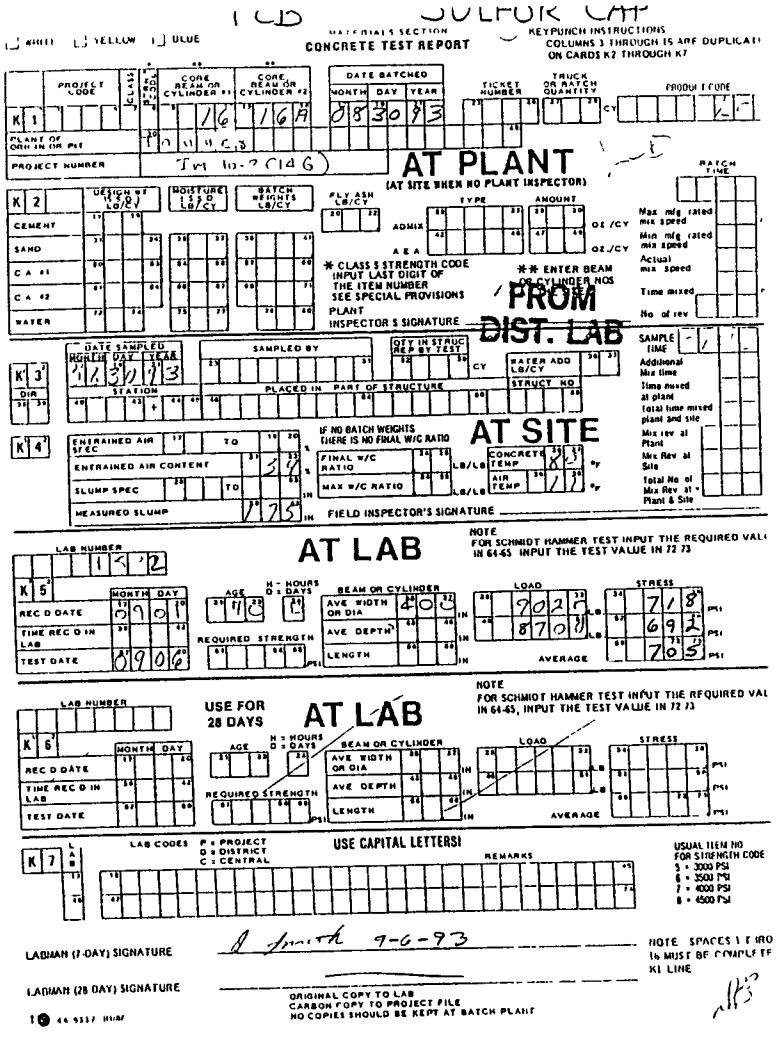
SPEC #	LOAD FAIL POINT	AVG LOAD FAIL PT	PSI
1	5513		
4	5250	5376	427 7
5	5364		

COMPRESSIVE STRENGTH OF WET SPECIMENS:

SPEC #	LOAD FAIL POINT	AVG LOAD FAIL PT	PSI
2	4355		
3	4348	4421	351.7 ✓
6	4561		

INDEX OF RETAINED STRENGTH = PSI(WET)/PSI(DRY) x 100 = 351 7/427 7 x 100 = 82.2


CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 15 ARE DUPLICATED ON CARDS K2 THROUGH K7
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
FROM DIST. LAB
AT SITE
AT LAB
USE FOR 28 DAYS
USE CAPITAL LETTERS!
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT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FROM DIST. LAB
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ORIGINAL COPY TO LAB
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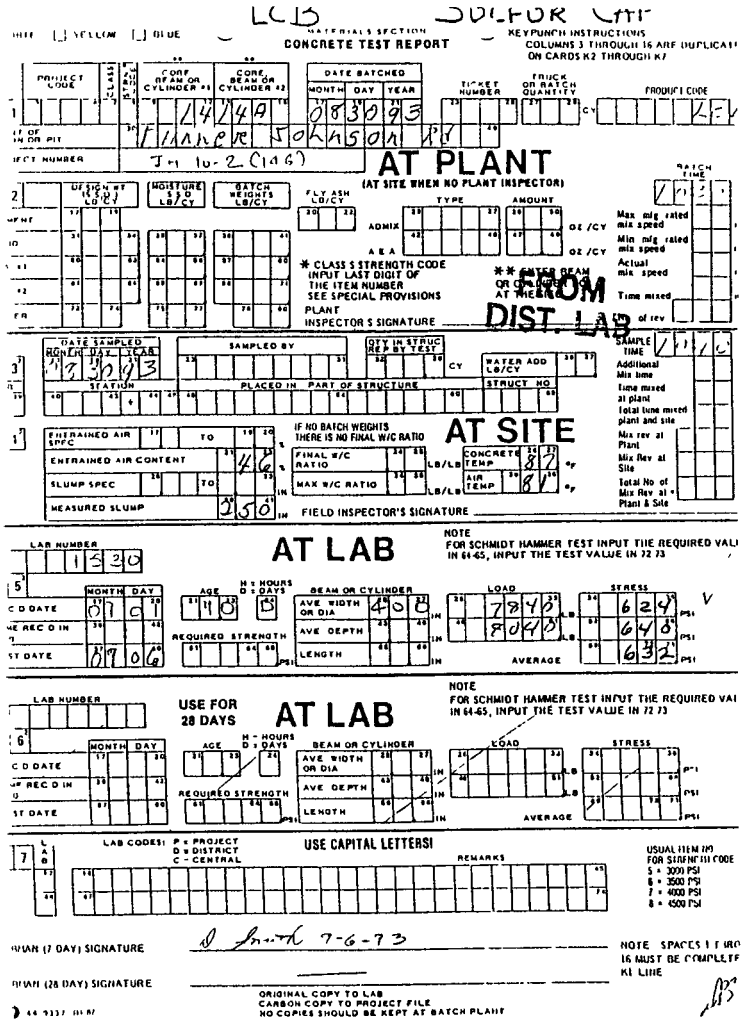


LC13 SULFUR CAP

CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

PROJECT CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

1 | 1 4 | 1 4 | 0 8 30 9 3 | | | K F V

PLANT OF ORIGIN OR PIT: FINNER ROAD SOUTH RR

PROJECT NUMBER: JN 10-2 (146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

2 | DESIGN WT LB/CY | MOISTURE S/D LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | TYPE | AMOUNT | BATCH TIME

CEMENT | SAND | CA #1 | CA #2 | WATER

ADMIX | AEA | OZ/CY

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE RIGHT

PLANT INSPECTOR'S SIGNATURE

Max mfg rated mix speed | Min mfg rated mix speed | Actual mix speed | Time mixed | No of rev

FROM DIST. LAB

3 | DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY | SAMPLE TIME

STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

Additional Mix time | Time mixed at plant | Total time mixed plant and site

4 | ENTRAINED AIR SPEC | TO

ENTRAINED AIR CONTENT

SLUMP SPEC | TO

MEASURED SLUMP

AT SITE

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | MAX W/C RATIO | LB/LB

CONCRETE TEMP | AIR TEMP | °F

Mix rev at Plant | Mix Rev at Site | Total No of Mix Rev at Plant & Site

FIELD INSPECTOR'S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65, INPUT THE TEST VALUE IN 72 73

5 | LAB NUMBER

REC'D DATE | TIME REC'D IN LAB | TEST DATE

AGE | H = HOURS D = DAYS | REQUIRED STRENGTH

BEAM OR CYLINDER: AVE WIDTH OR DIA | AVE DEPTH | LENGTH

LOAD | STRESS | AVERAGE

6 | USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65, INPUT THE TEST VALUE IN 72 73

7 | LAB CODES: P = PROJECT D = DISTRICT C = CENTRAL | USE CAPITAL LETTERS! | REMARKS

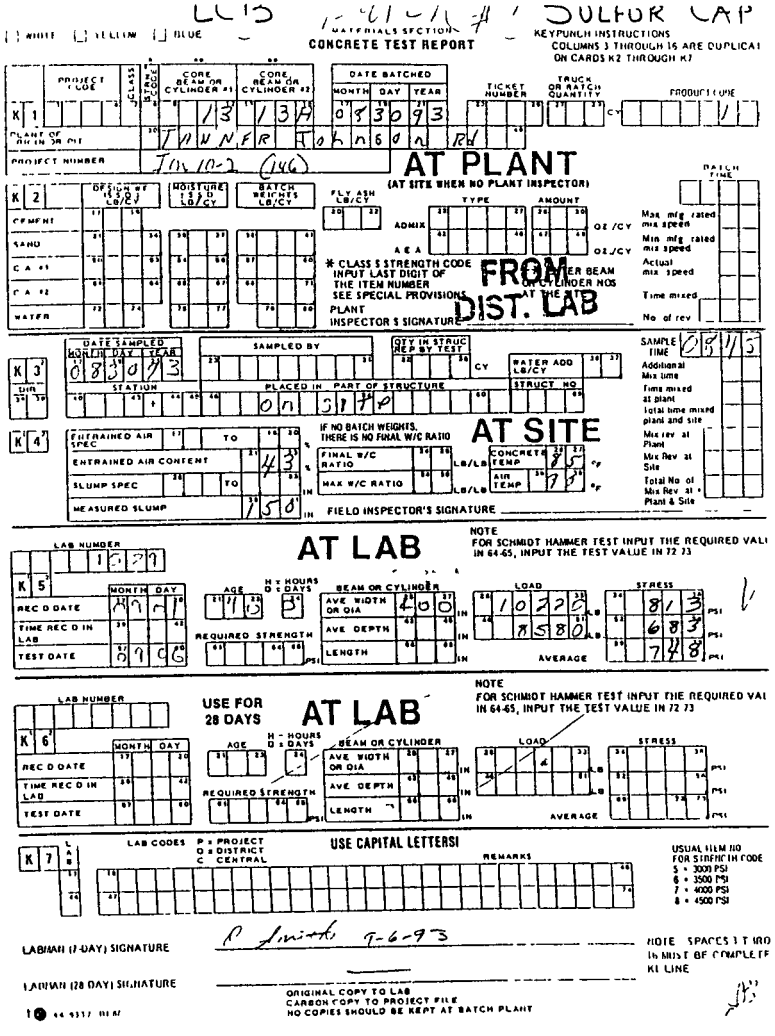
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

LABMAN (7 DAY) SIGNATURE: D Smith 7-6-73

LABMAN (28 DAY) SIGNATURE:

NOTE SPACES 1 THRU 16 MUST BE COMPLETED KL LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT



LC13 FINNER #1 SULFUR CAP

CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

PROJECT CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

K 1 | 1 3 | 1 3 | 0 8 30 9 3 | | | 1

PLANT OF ORIGIN OR PIT: FINNER ROAD SOUTH RR

PROJECT NUMBER: JN 10-2 (146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

K 2 | DESIGN WT LB/CY | MOISTURE S/D LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | TYPE | AMOUNT | BATCH TIME

CEMENT | SAND | CA #1 | CA #2 | WATER

ADMIX | AEA | OZ/CY

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE RIGHT

PLANT INSPECTOR'S SIGNATURE

Max mfg rated mix speed | Min mfg rated mix speed | Actual mix speed | Time mixed | No of rev

FROM DIST. LAB

K 3 | DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY | SAMPLE TIME 0815

STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

Additional Mix time | Time mixed at plant | Total time mixed plant and site

K 4 | ENTRAINED AIR SPEC | TO

ENTRAINED AIR CONTENT 4.3 %

SLUMP SPEC | TO

MEASURED SLUMP 7 5 0 IN

AT SITE

IF NO BATCH WEIGHTS, THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | MAX W/C RATIO | LB/LB

CONCRETE TEMP 85 °F | AIR TEMP 73 °F

Mix rev at Plant | Mix Rev at Site | Total No of Mix Rev at Plant & Site

FIELD INSPECTOR'S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65, INPUT THE TEST VALUE IN 72 73

K 5 | LAB NUMBER 1 0 2 9

REC'D DATE 8 9 | TIME REC'D IN LAB | TEST DATE 8 9 0 6

AGE 1 4 | H = HOURS D = DAYS 0 | REQUIRED STRENGTH

BEAM OR CYLINDER: AVE WIDTH OR DIA 4 0 0 IN | AVE DEPTH | LENGTH

LOAD: 1 0 2 2 0 LB | 1 5 8 0 LB | AVERAGE

STRESS: 8 1 3 PSI | 6 8 3 PSI | 7 4 8 PSI | AVERAGE

K 6 | USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65, INPUT THE TEST VALUE IN 72 73

K 7 | LAB CODES: P = PROJECT D = DISTRICT C = CENTRAL | USE CAPITAL LETTERS! | REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

LABMAN (7 DAY) SIGNATURE: P Smith 9-6-73

LABMAN (28 DAY) SIGNATURE:

NOTE SPACES 1 THRU 16 MUST BE COMPLETED KL LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

CONCRETE SPOT CHECKS
WEST AREA LAB

DATE: 082493 TIME: 20:03 ENGINEER: S. Brubaker
PROJ.# IM 10-2(146) TRACS _____ CONTR. _____
PLANT # TANNER/JOHNS RD PRODUCT LCB STRENGTH _____
TRUCK # M10 CERT _____ TICKET # Batch 1
USED FOR Base FUNCTION CODE _____
YARDS BATCHED 8

MATERIAL	DESIGN WEIGHT	TARGET BATCHED WEIGHT	BATCHED WEIGHT	VARIATION IN BATCH
CEMENT	234	1872	1920	1% +2.6%
FLYASH	50	400	385	1% -3.8
WATER	35- 30gal	280-240	278	1.5%
FA				2%
CA 1	3345	26,760	26640	2% -0.4
CA 2				2%
CA 3				2%
AIR ADMIX	WR GRACE 3.5	28	61	5% Rate 7.6 oz/cy
H2O ADMIX	WR GRACE 5.5	44	68	5% Rate @ 8.5 oz/cy
OTHER ADM				5%
MOISTURE	FA	CA1	CA2	CA3

MIXING RPM _____ MIXING TIME MIN. 60 SEC TOTAL REV. _____
REMARKS Water Reducer is being used at 8.5 oz/cy rate
air is at 7.6 oz/cy rate which is
in excess to what is called for on Mix Design

INSPECTED BY Rodgz
SUPERVISOR _____ DATE 082493

CONCRETE SPOT CHECKS
WEST AREA LAB

DATE: 22-493 TIME: 23:25 ENGINEER: S Brubaker
PROJ.# IM10-2(146) TRACS _____ CONTR. _____
PLANT # [illegible] PRODUCT LCB STRENGTH _____
TRUCK # M-10 CERT _____ TICKET # Batch 50
USED FOR BASE FUNCTION CODE _____
YARDS BATCHED 8

MATERIAL	DESIGN WEIGHT	TARGET BATCHED WEIGHT	BATCHED WEIGHT	VARIATION IN BATCH
CEMENT	234	1872	1875	1% +0.2
FLYASH	50	400	400	1% —
WATER gal.	35-30	280-240	267	1.5% —
FA				2%
CA 1	3345	26760	26760	2% —
CA 2				2%
CA 3				2%
AIR ADMIX	3.5 oz/cy	28	61	5% rate 7.6 oz/cy
H2O ADMIX	5.5 oz/cy	44	68	5% Rate 8.5 oz/cy
OTHER ADM				5%
MOISTURE	FA	CA1	CA2	CA3

MIXING RPM _____ MIXING TIME MIN. 60 Sec TOTAL REV. _____
REMARKS _____

INSPECTED BY Rodgz
SUPERVISOR _____ DATE _____

tch Record.

1:02AM
1Sep93

ds:. 8.00 Yd
tch:. 1 of 1
uck #:... 1

Mix ID: LCB
Batch #: 95
Driver: 1

Mix Desc:.TONOPAH LEAN BASE

gregate	Target	Actual	Moist
	Tare	Zero	
L	26760 Lb	26760	0.0%
			%
			%
			%
			%
	Tare	Zero	

ment	Target	Actual
	Tare	Zero
MENT	1872 Lb	1895
/ASH	400 Lb	385
	Tare	Zero

Admix		Target	Actual
		Tare	Zero
WRDA	#1	68 Oz	68
AIR	#1	50 Oz	50
		Tare	Zero

Water	Target	Actual
	Tare	
Water #1	#1 298 Gal	300
	Tare	

tch Record:

1:04AM
1Sep93

ds:. 8.00 Yd
ch:. 1 of 1
ck #:... 1

Mix ID: LCB
Batch #: 96
Driver: 1

Mix Desc:.TONOPAH LEAN BASE

egate	Target	Actual	Moist
	Tare	Zero	
	26760 Lb	26720	0.0%
			%
			%
			%
			%
	Tare	Zero	

ent	Target	Actual
	Tare	Zero
MENT	1872 Lb	1870
/ASH	400 Lb	380
	Tare	Zero

Admix		Target	Actual
		Tare	Zero
WRDA	#1	68 Oz	68
AIR	#1	50 Oz	50
		Tare	Zero

Water	Target	Actual
	Tare	
Water #1	#1 298 Gal	300
	Tare	

SAVE IN LCB FILE

Batch Record:

1:07AM
1Sep93

Yards:. 8.00 Yd
Batch:. 1 of 1
Truck #:... 1

Mix ID. LCB
Batch #: 97
Driver: 1

Mix Desc:.TONOPAH LEAN BASE

Aggregate	Target	Actual	Moist
	Tare	Zero	
ABC	26760 Lb	27360	0.0%
			%
			%
			%
			%
	Tare	Zero	

Cement	Target	Actual
	Tare	Zero
CEMENT	1872 Lb	1875
FLYASH	400 Lb	380
	Tare	Zero

Admix		Target	Actual
		Tare	Zero
WRDA	#1	68 Oz	68
AIR	#1	50 Oz	50
		Tare	Zero

Water	Target	Actual
	Tare	
Water #1	#1 298 Gal	300
	Tare	

Batch Record:

1:09AM
1Sep93

Yards:. 8.00 Yd
Batch:. 1 of 1
Truck #:... 1

Mix ID: LCB
Batch #: 98
Driver: 1

Mix Desc:.TONOPAH LEAN BASE

Aggregate	Target	Actual	Moist
	Tare	Zero	
ABC	26760 Lb	27000	0.0%
			%
			%
			%
			%
	Tare	Zero	

Cement	Target	Actual
	Tare	Zero
CEMENT	1872 Lb	1855
FLYASH	400 Lb	380
	Tare	Zero

Admix		Target	Actual
		Tare	Zero
WRDA	#1	68 Oz	68
AIR	#1	50 Oz	50
		0 Oz	0
		0 Oz	0
		0 Oz	0
		0 Oz	0
		Tare	Zero

Water	Target	Actual
	Tare	
Water #1	#1 298 Gal	300
	Tare	

ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

LAB NUMBER | PROJ CODE 3480 | MATL PA | TYPE | PURPOSE A | LAB P | SPEC # I | SIZE | SIZE %
TEST NO | LOT OR SUFFIX | SAMPLED BY Wilkins | MO 08 DAY 23 YEAR 93 | TIME 1830
LIFT NO | SAMPLED FROM STOCKPILE | RDWY | STATION | PLUS
P = PIT E = EXC | ORIGINAL SOURCE STATION OR PIT NO. Palmdale | PROJECT NUMBER IM-10-2(146) | PROJECT ENGINEER S Brubaker
I = IN PLACE | * MILEPOST INPUT DECIMAL IN COL 78 | REMARKS | USE CAPITAL LETTERS!
KEYPUNCH INSTRUCTIONS Duplicate col 1 thru 7 on all cards

T = AASHTO Tests

% OVERSIZE ARIZ 201 | COARSE FACTOR (no punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3				
2½				
2				
1½				
1				
3/4				
1/2				
3/8			100	
1/4				
#4	10	2		2
-#4		98	95-100	
Total				

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90 | SPECS
Abrasion (A B C D) T 96 | @ 100 Revolutions | @ 500 Revolutions
Absorption H_2O ARIZ 211 T 85 | Specific Gravity SSD | Specific Gravity OD
Sand Equivalent T 176 ARIZ 242 (MAFC) 84 47 75
Fractured Faces Weight (W_f) (dp) | Total Sample Weight (W_a) (dp) | Fractured Faces FF = $\frac{W_f}{W_a}$ × 100 ARIZ 212
Wet Weight (W) (dp) | Dry Weight (D) (dp) | Moisture Content = $\frac{W-D}{D}$ × 100 T 255
FLAKINESS INDEX ARIZ 233
ph Ariz 236 or 237 | Resistivity (ohm-cm) Ariz 236 | Soluable Salts (PPM) Ariz 237

WT PASS #4 SPLIT 514 20 | FINE SIEVE FACTOR 184.502 (no punch)

WEIGHTS RETAINED	% RET	% PASS		
#8	58	11	87	13
#10	13	2	85	
#16	53	10	75	45-80 25
#30	118	22	53	41
#40	79	14	39	
#50	76	14	25	0-30 75
#100	96	18	7	0-10 93
#200	24	4		255
-#200	0			
Total	528 Dry Weight			
Elutriation	14			

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100 = 2.5 | NECESSARY FOR ALL FA & CA 0-4

WHITE ☐ YELLOW ☐ BLUE ☐

1● 44-9353 R8/91

RECEIVED DATE | TEST OPERATOR AND DATE HL 8-26-93 | SUPERVISOR AND DATE 8-26-93
SEE BACK ALSO

ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

LAB NUMBER G1 | PROJ CODE 3480 | MATL PA | TYPE | PURPOSE A | LAB P | SPEC # I | SIZE | SIZE %
TEST NO | LOT OR SUFFIX | SAMPLED BY STEICLEJ | MO 08 DAY 19 YEAR 93 | TIME 0630
LIFT NO | SAMPLED FROM STOCKPILE | RDWY | STATION | PLUS
P = PIT E = EXC | ORIGINAL SOURCE STATION OR PIT NO. PALMDALE | PROJECT NUMBER H293601C | PROJECT ENGINEER S BRUBAKER
I = IN PLACE | * MILEPOST INPUT DECIMAL IN COL 78 | REMARKS | USE CAPITAL LETTERS!
G2
KEYPUNCH INSTRUCTIONS Duplicate col 1 thru 7 on all cards

T = AASHTO Tests

% OVERSIZE ARIZ 201 | COARSE FACTOR (no punch)

WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3				
2½				
2				
1½				
1				
3/4				
1/2				
3/8			100	100
1/4				
#4	17	1		1
-#4		99	95-100	100
Total				

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90 | SPECS
Abrasion (A B C D) T 96 | @ 100 Revolutions | @ 500 Revolutions
Absorption H_2O ARIZ 211 T 85 | Specific Gravity SSD | Specific Gravity OD
Sand Equivalent T 176 ARIZ 242 (MAFC) 71 75 89
Fractured Faces Weight (W_f) (dp) | Total Sample Weight (W_a) (dp) | Fractured Faces FF = $\frac{W_f}{W_a}$ × 100 ARIZ 212
Wet Weight (W) (dp) | Dry Weight (D) (dp) | Moisture Content = $\frac{W-D}{D}$ × 100 T 255
FLAKINESS INDEX ARIZ 233
ph Ariz 236 or 237 | Resistivity (ohm-cm) Ariz 236 | Soluable Salts (PPM) Ariz 237

WT PASS #4 SPLIT 538 | FINE SIEVE FACTOR 185874 (no punch)

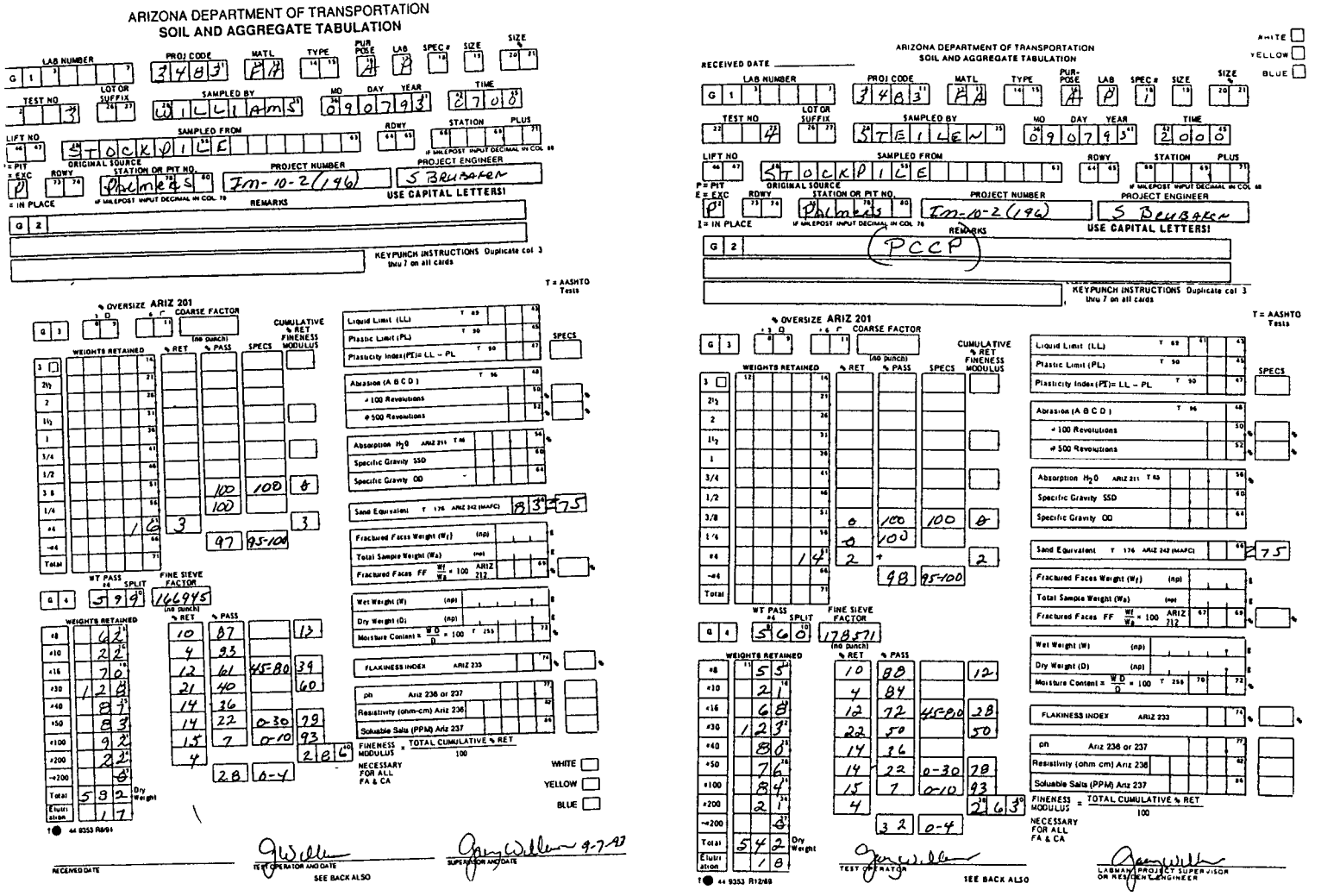
WEIGHTS RETAINED	% RET	% PASS		
#8	56	10	89	11
#10	12	2	87	
#16	54	10	77	45-80 23 73
#30	124	23	54	46
#40	85	16	38	
#50	81	15	23	0-30 77 23
#100	84	16	7	0-10 93 6
#200	20	4		251
-#200	8			
Total	520 Dry Weight		33	0-4 24
Elutriation	18			

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100 | NECESSARY FOR ALL FA & CA

WHITE ☐ YELLOW ☐ BLUE ☐

1● 44-9353 R8/91

RECEIVED DATE | TEST OPERATOR AND DATE HL RR 8-18-93 | SUPERVISOR AND DATE 8-18-93
SEE BACK ALSO



ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

LAB NUMBER G 1 3 4 5 7 | PROJ CODE 3 4 8 3 | MATL P A | TYPE | PURPOSE A | LAB B | SPEC # | SIZE | SIZE % 20 21

TEST NO 2 3 | LOT OR SUFFIX 26 27 | SAMPLED BY W I L L I A M S | MO 09 | DAY 07 | YEAR 93 | TIME 27 00

LIFT NO 44 47 | SAMPLED FROM STOCKPILE | ROWY 64 65 | STATION | PLUS 69 71 (IF MILEPOST INPUT DECIMAL IN COL 68)

P = PIT, E = EXC, I = IN PLACE | ORIGINAL SOURCE P | ROWY 73 74 | STATION OR PIT NO. Palmdale 76 80 (IF MILEPOST INPUT DECIMAL IN COL 70) | PROJECT NUMBER Fm-10-2(196) | PROJECT ENGINEER S BRUBAKER

REMARKS | USE CAPITAL LETTERS!

G 2

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

T = AASHTO Tests

% OVERSIZE ARIZ 201 D | COARSE FACTOR (no punch) | CUMULATIVE % RET FINENESS MODULUS | SPECS

G 3

	WEIGHTS RETAINED	% RET	% PASS	SPECS
3				
2½				
2				
1½				
1				
3/4				
1/2				
3/8			100	100
1/4			100	
#4	16	3		3
-#4			97	95-100
Total				

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90 | SPECS

Abrasion (A B C D) T 96 | # 100 Revolutions | # 500 Revolutions

Absorption H_2O ARIZ 211 T 85 | Specific Gravity SSD | Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC) 83 75

Fractured Faces Weight (W_f) (np) | Total Sample Weight (W_a) (no) | Fractured Faces FF $\frac{W_f}{W_a} \times 100$ ARIZ 212

Wet Weight (W) (np) | Dry Weight (D) (np) | Moisture Content = $\frac{W-D}{D} \times 100$ T 255

FLAKINESS INDEX ARIZ 233

ph Ariz 236 or 237 | Resistivity (ohm-cm) Ariz 236 | Soluable Salts (PPM) Ariz 237

FINENESS MODULUS necessary for all FA & CA = TOTAL CUMULATIVE % RET / 100 = 2.86

WHITE | YELLOW | BLUE

G 4 | WT PASS #6 SPLIT 590 | FINE SIEVE FACTOR (no punch) 166945

	WEIGHTS RETAINED	% RET	% PASS	SPECS
#8	42	10	87	13
#10	22	4	83	
#16	70	12	61	45-80 39
#30	128	21	40	60
#40	87	14	26	
#50	83	14	22	0-30 29
#100	92	15	7	0-10 93
#200	22	4		28 0-4
-#200	6			
Total	592			
Elutriation	17			

Dry Weight

T ● 44 9353 R8/84

RECEIVED DATE | TEST OPERATOR AND DATE | SUPERVISOR AND DATE 9-7-93

SEE BACK ALSO

ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

WHITE | YELLOW | BLUE

RECEIVED DATE

LAB NUMBER G 1 3 4 5 7 | PROJ CODE 3 4 8 3 | MATL P A | TYPE | PURPOSE A | LAB B | SPEC # 1 | SIZE | SIZE % 20 21

TEST NO 2 4 | LOT OR SUFFIX 26 27 | SAMPLED BY STEIGEN | MO 09 | DAY 07 | YEAR 93 | TIME 20 00

LIFT NO 44 47 | SAMPLED FROM STOCKPILE | ROWY 64 65 | STATION | PLUS 69 71 (IF MILEPOST INPUT DECIMAL IN COL 68)

P = PIT, E = EXC, I = IN PLACE | ORIGINAL SOURCE P | ROWY 73 74 | STATION OR PIT NO. Palmdale 76 80 (IF MILEPOST INPUT DECIMAL IN COL 70) | PROJECT NUMBER Fm-10-2(196) | PROJECT ENGINEER S BRUBAKER

REMARKS (PCCP) | USE CAPITAL LETTERS!

G 2

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

T = AASHTO Tests

% OVERSIZE ARIZ 201 +3 D | +6 COARSE FACTOR (no punch) | CUMULATIVE % RET FINENESS MODULUS | SPECS

G 3

	WEIGHTS RETAINED	% RET	% PASS	SPECS
3				
2½				
2				
1½				
1				
3/4				
1/2				
3/8		0	100	100
1/4		0	100	
#4	14	2		2
-#4			98	95-100
Total				

Liquid Limit (LL) T 89 | Plastic Limit (PL) T 90 | Plasticity Index (PI) = LL − PL T 90 | SPECS

Abrasion (A B C D) T 96 | # 100 Revolutions | # 500 Revolutions

Absorption H_2O ARIZ 211 T 85 | Specific Gravity SSD | Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC) 75

Fractured Faces Weight (W_f) (np) | Total Sample Weight (W_a) (no) | Fractured Faces FF $\frac{W_f}{W_a} \times 100$ ARIZ 212

Wet Weight (W) (np) | Dry Weight (D) (np) | Moisture Content = $\frac{W-D}{D} \times 100$ T 255

FLAKINESS INDEX ARIZ 233

ph Ariz 236 or 237 | Resistivity (ohm-cm) Ariz 236 | Soluable Salts (PPM) Ariz 237

FINENESS MODULUS necessary for all FA & CA = TOTAL CUMULATIVE % RET / 100 = 2.63

G 4 | WT PASS #6 SPLIT 560 | FINE SIEVE FACTOR (no punch) 178571

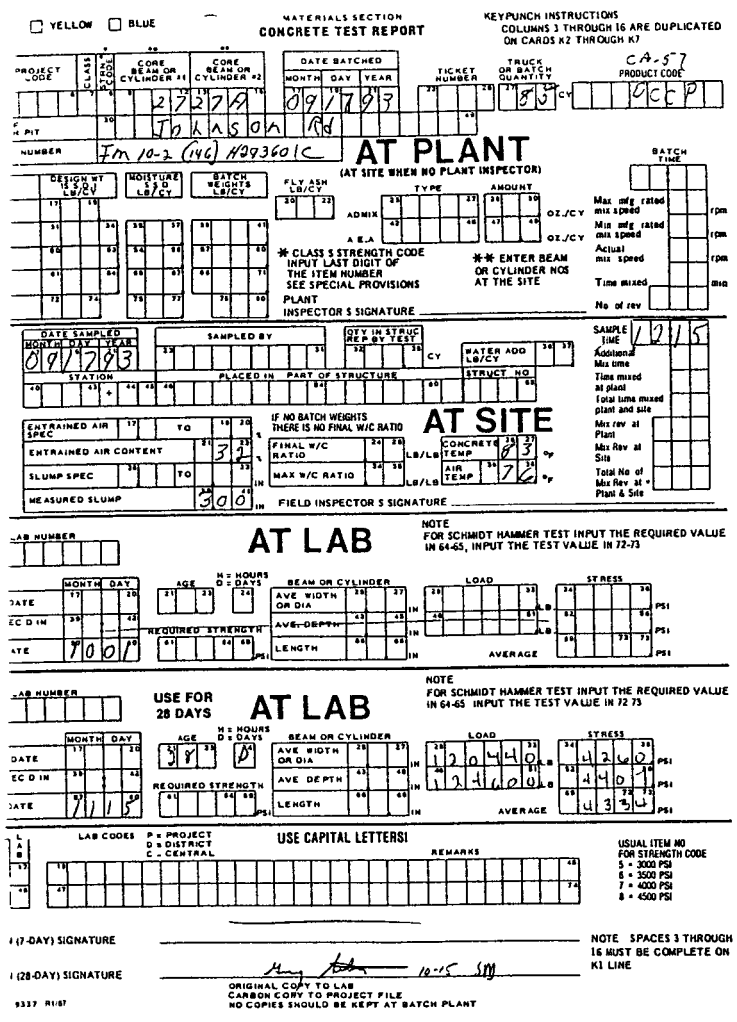
	WEIGHTS RETAINED	% RET	% PASS	SPECS
#8	55	10	90	12
#10	21	4	86	
#16	68	12	74	45-80 28
#30	123	22	52	50
#40	80	14	38	
#50	76	14	24	0-30 28
#100	84	15	9	0-10 93
#200	21	4		32 0-4
-#200	6			
Total	542			
Elutriation	18			

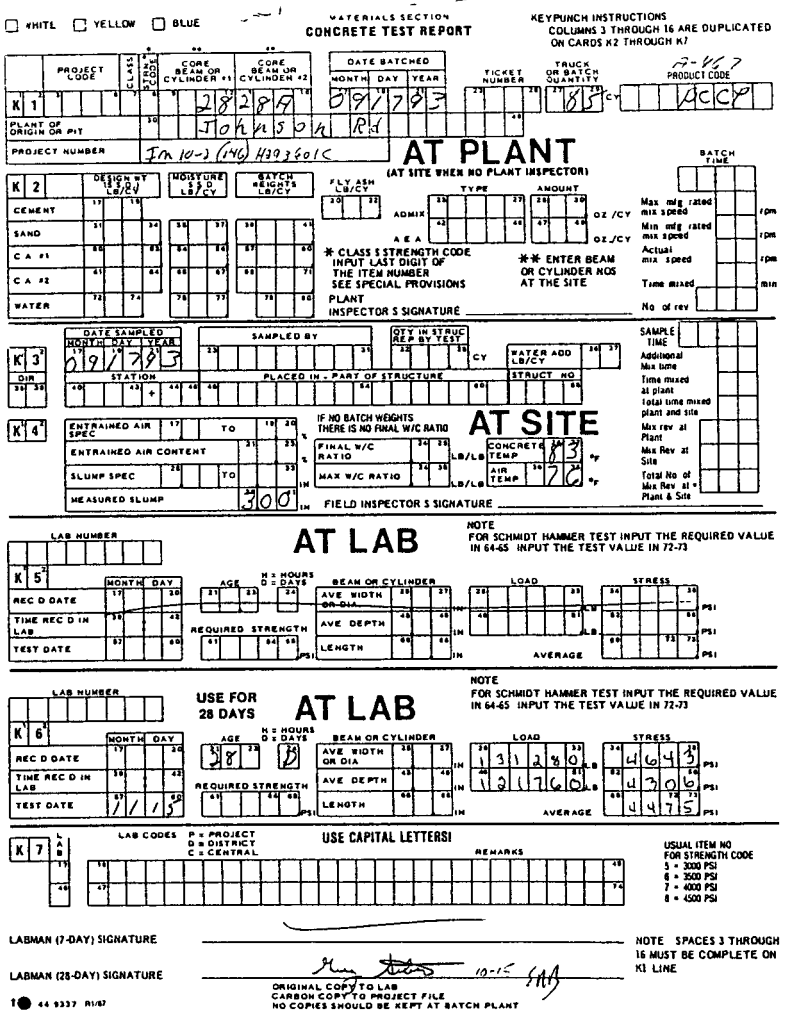
Dry Weight

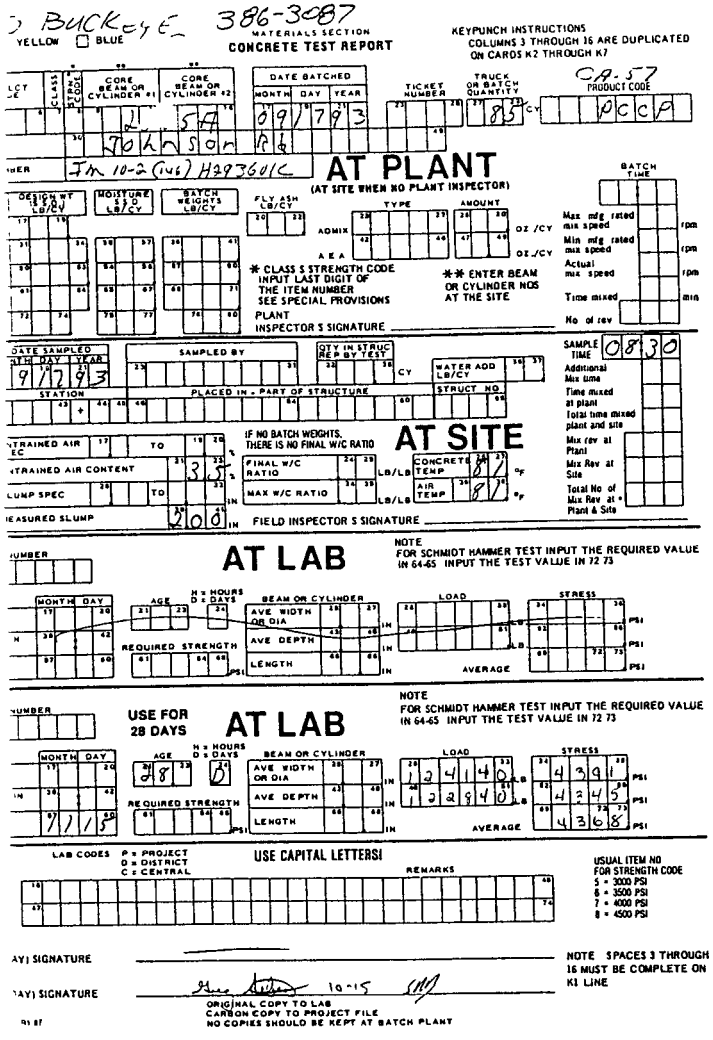
T ● 44 9353 R12/88

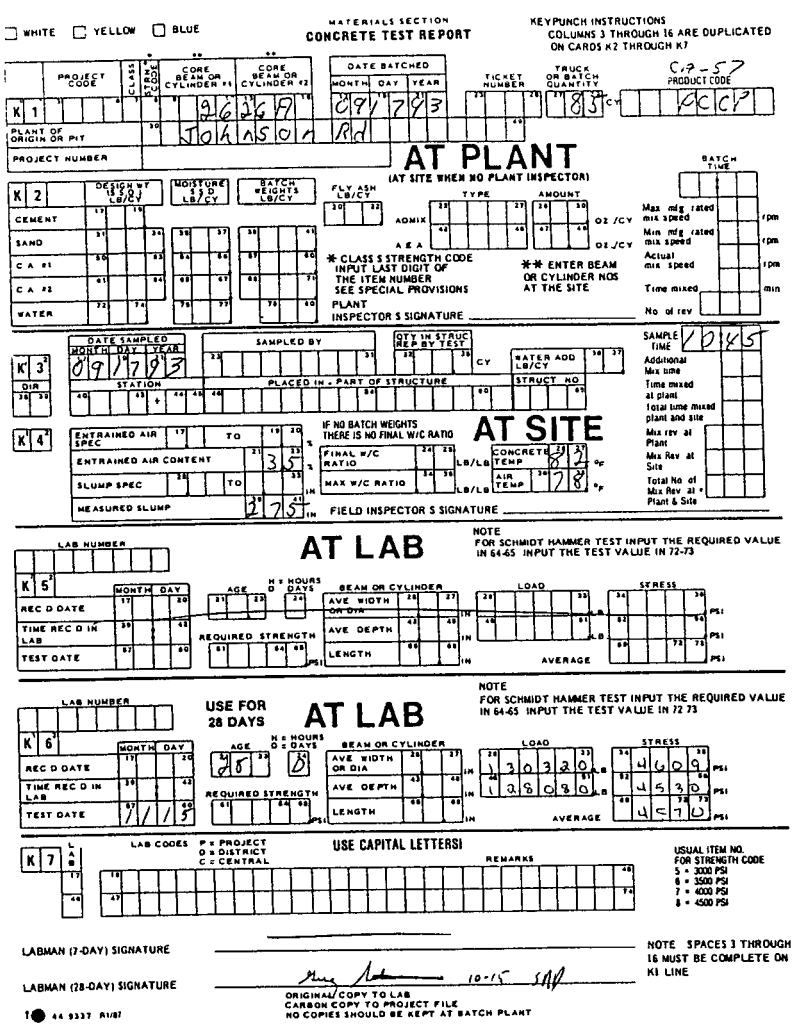
TEST OPERATOR | LABMAN, PROJECT SUPERVISOR OR RESIDENT ENGINEER

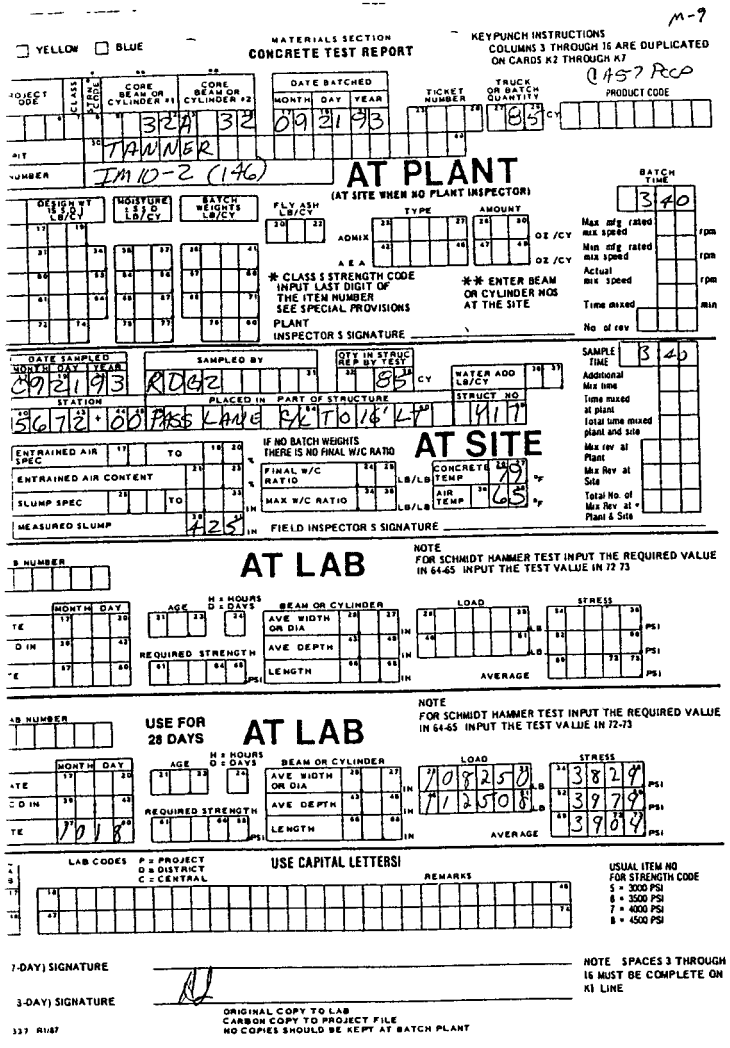
SEE BACK ALSO


YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
PROJECT CODE
CLASS
STRUCT CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
CA-57
UCEP
2 7 2 7 A
09 17 93
85 CY
Johnson Rd
PLANT OF ORIGIN OR PIT
PROJECT NUMBER
Fm 10-2 (146) H393601C
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
DESIGN WT LB/CY
MOISTURE S S D LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
ADMIX
TYPE
AMOUNT
OZ./CY
A E A
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
BATCH TIME
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
MONTH DAY YEAR
09 17 93
SAMPLED BY
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
STATION
PLACED IN - PART OF STRUCTURE
STRUCT NO
SAMPLE TIME
12 15
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Max Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT
3 2
SLUMP SPEC
TO
IN
MEASURED SLUMP
3 00
IN
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
AIR TEMP
°F
63
76
FIELD INSPECTOR S SIGNATURE
LAB NUMBER
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65, INPUT THE TEST VALUE IN 72-73
DATE
REC'D IN LAB
TEST
MONTH DAY
10 15
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
REQUIRED STRENGTH
LOAD
AVERAGE
STRESS
PSI
USE FOR 28 DAYS
AT LAB
28 D
1 2 0 4 0
1 2 4 6 0
4 2 6 0
4 4 0
4 3 5 4
LAB CODES
P = PROJECT
D = DISTRICT
C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO
FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
(7-DAY) SIGNATURE
(28-DAY) SIGNATURE
10-15 SM
NOTE SPACES 3 THROUGH
16 MUST BE COMPLETE ON
K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
9337 R1/67


WHITE
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
PROJECT CODE
CLASS
STRUCT CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
CA-57
ACCP
K1
2 8 2 8 A
09 17 93
85 CY
Johnson Rd
PLANT OF ORIGIN OR PIT
PROJECT NUMBER
Fm 10-2 (146) H393601C
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
K2
CEMENT
SAND
C A #1
C A #2
WATER
DESIGN WT LB/CY
MOISTURE S S D LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
ADMIX
TYPE
AMOUNT
OZ./CY
A E A
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
BATCH TIME
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
K3
DATE SAMPLED
MONTH DAY YEAR
09 17 93
SAMPLED BY
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
DIR
STATION
PLACED IN - PART OF STRUCTURE
STRUCT NO
SAMPLE TIME
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Max Rev at Site
Total No of Mix Rev at Plant & Site
K4
AT SITE
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT
SLUMP SPEC
TO
IN
MEASURED SLUMP
3 00
IN
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
AIR TEMP
°F
83
76
FIELD INSPECTOR S SIGNATURE
LAB NUMBER
K5
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
REC'D DATE
TIME REC'D IN LAB
TEST DATE
MONTH DAY
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
REQUIRED STRENGTH
LOAD
AVERAGE
STRESS
PSI
K6
USE FOR 28 DAYS
AT LAB
28 D
1 3 1 2 3 0
1 2 1 7 6 0
4 6 4 3
4 3 0 6
4 4 7 5
K7
LAB CODES
P = PROJECT
D = DISTRICT
C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO
FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
10-15 SM
NOTE SPACES 3 THROUGH
16 MUST BE COMPLETE ON
K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
44 9337 R1/67


BUCKEYE 386-3087
YELLOW BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
CA-57
PRODUCT CODE
DATE BATCHED
MONTH DAY YEAR
09 / 7 9 3
TICKET NUMBER
TRUCK OR BATCH QUANTITY
8 5 CY
0 C C P
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
2 5A
JOHNSON Rd
JM 10-2 (146) H2936 01C
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
DESIGN WT SSD LB/CY
MOISTURE SSD LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
ADMIX
AEA
TYPE
AMOUNT
OZ /CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
BATCH TIME
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
PLANT
INSPECTOR S SIGNATURE
DATE SAMPLED
MONTH DAY YEAR
9 / 12 / 93
SAMPLED BY
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
STATION
PLACED IN - PART OF STRUCTURE
STRUCT NO
SAMPLE TIME 0830
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT 3.5 %
SLUMP SPEC
TO
MEASURED SLUMP 2.0 IN
IF NO BATCH WEIGHTS,
THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP 81 °F
AIR TEMP 81 °F
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72 73
LAB NUMBER
MONTH DAY
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
PSI
IN
LB
USE FOR 28 DAYS
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72 73
AGE 28
9 / 1 / 15
LOAD 124140 LB
124284 0 LB
AVERAGE
STRESS 4391 PSI
4245 PSI
4368 PSI
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
AY) SIGNATURE
AY) SIGNATURE
10-15
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT


WHITE YELLOW BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
CA-57
PRODUCT CODE
PROJECT CODE
CLASS
ITEM CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
09 / 7 9 3
TICKET NUMBER
TRUCK OR BATCH QUANTITY
8 5 CY
K1
9 6 26 19
PLANT OF ORIGIN OR PIT
JOHNSON Rd
PROJECT NUMBER
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
K2
DESIGN WT SSD LB/CY
MOISTURE SSD LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
CEMENT
SAND
CA #1
CA #2
WATER
ADMIX
AEA
TYPE
AMOUNT
OZ /CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
BATCH TIME
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
PLANT
INSPECTOR S SIGNATURE
K3
DATE SAMPLED
MONTH DAY YEAR
09 / 7 / 93
SAMPLED BY
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
DIA
STATION
PLACED IN - PART OF STRUCTURE
STRUCT NO
SAMPLE TIME 1045
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
K4
AT SITE
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT 3.5 %
SLUMP SPEC
TO
MEASURED SLUMP 2.75 IN
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP 87 °F
AIR TEMP 78 °F
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
LAB NUMBER
K5
MONTH DAY
REC'D DATE
TIME REC'D IN LAB
TEST DATE
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
PSI
IN
LB
USE FOR 28 DAYS
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72 73
LAB NUMBER
K6
REC'D DATE
TIME REC'D IN LAB
TEST DATE
AGE 28
9 / 1 / 15
LOAD 130320 LB
128080 LB
AVERAGE
STRESS 4609 PSI
4530 PSI
4570 PSI
K7
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO. FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
10-15
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT



YELLOW BLUE

MATERIALS SECTION
CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

M-9

1457 Rcp

PROJECT CODE | CLASS | STRENGTH CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

3 2A | 3 2 | 09 21 93 | 85 CY

PIT: TANNER

NUMBER: IM10-2 (146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 3 40

DESIGN WT LB/CY | MOISTURE LBS D LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | TYPE | AMOUNT

ADMIX | OZ /CY
A E A | OZ /CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY | SAMPLE TIME 3 40

09 21 93 | RDG | 85 CY

STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

56 72 + 00 | PASS LANE EAST 16'-4" | 1411

AT SITE

ENTRAINED AIR SPEC | TO | %
ENTRAINED AIR CONTENT | %
SLUMP SPEC | TO | IN
MEASURED SLUMP 4 25 IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | LB/LB
MAX W/C RATIO | LB/LB

CONCRETE TEMP 79 °F
AIR TEMP 65 °F

FIELD INSPECTOR S SIGNATURE

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No. of Mix Rev. at Plant & Site

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

LAB NUMBER | MONTH DAY | AGE | H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

REQUIRED STRENGTH PSI
AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN
AVERAGE LB PSI

USE FOR 28 DAYS AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

LAB NUMBER | MONTH DAY | AGE | H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

10 18 25 30 LB
11 12 50 80 LB
AVERAGE

38 29 PSI
39 79 PSI
39 09 PSI

USE CAPITAL LETTERS!

LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

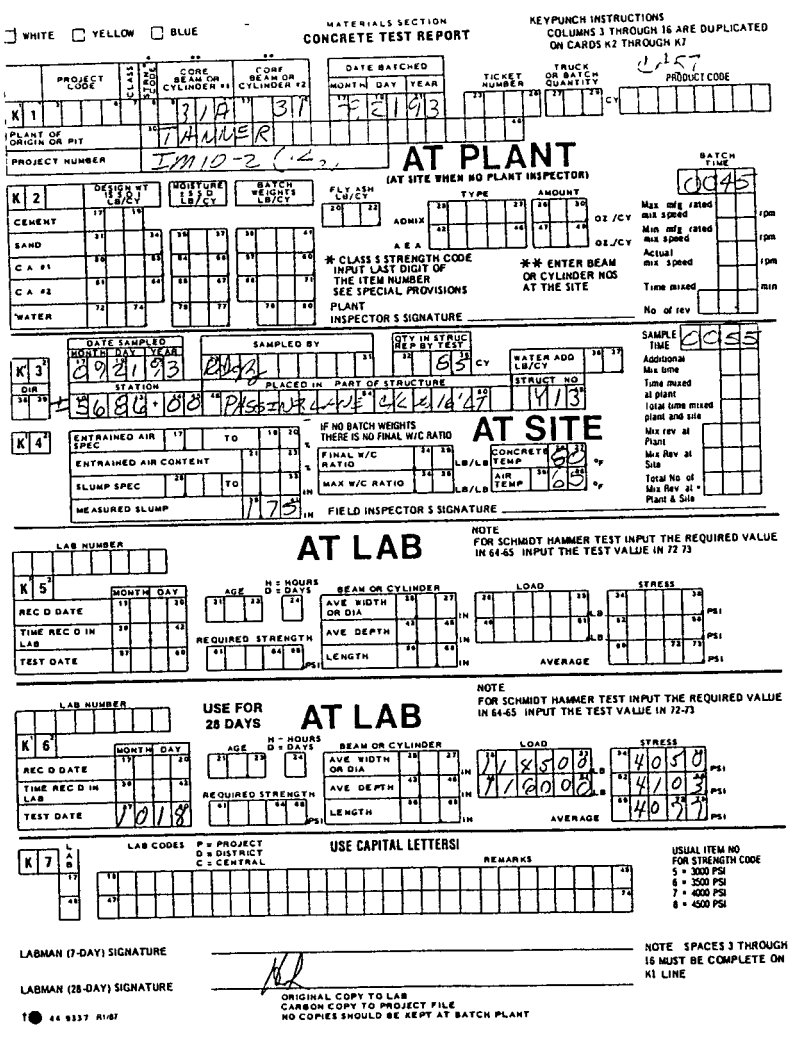
7-DAY) SIGNATURE

3-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

337 R1/87



WHITE YELLOW BLUE

MATERIALS SECTION
CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

1457

K1 | PROJECT CODE | CLASS | STRENGTH CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

3 1A | 3 1 | 5 2 1 93 | CY

PLANT OF ORIGIN OR PIT: TANNER

PROJECT NUMBER: IM10-2 (146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 0045

K2 | DESIGN WT LB/CY | MOISTURE LBS D LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | TYPE | AMOUNT

CEMENT
SAND
C A #1
C A #2
WATER

ADMIX | OZ /CY
A E A | OZ /CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

K3 | DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY | SAMPLE TIME 0055

DIR

09 21 93 | RDG | 85 CY

STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

56 86 + 08 | PASS LANE EAST 16'-4" | 1413

AT SITE

K4 | ENTRAINED AIR SPEC | TO | %
ENTRAINED AIR CONTENT | %
SLUMP SPEC | TO | IN
MEASURED SLUMP 1 75 IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | LB/LB
MAX W/C RATIO | LB/LB

CONCRETE TEMP 80 °F
AIR TEMP 69 °F

FIELD INSPECTOR S SIGNATURE

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev. at Plant & Site

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

K5 | LAB NUMBER | MONTH DAY | AGE | H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

REC D DATE
TIME REC D IN LAB
TEST DATE

REQUIRED STRENGTH PSI
AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN
AVERAGE LB PSI

USE FOR 28 DAYS AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

K6 | LAB NUMBER | MONTH DAY | AGE | H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

1 0 1 8

7 1 8 5 0 8 LB
7 1 6 0 0 2 LB
AVERAGE

40 50 PSI
41 03 PSI
40 77 PSI

USE CAPITAL LETTERS!

K7 | LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

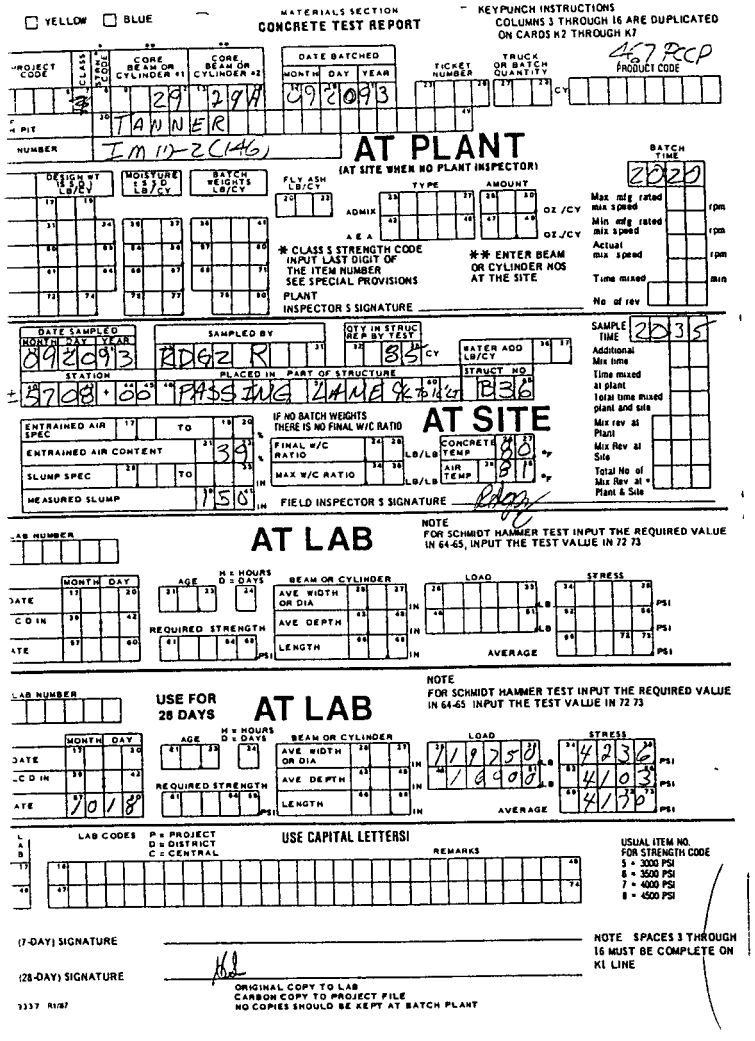
LABMAN (7-DAY) SIGNATURE

LABMAN (28-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

44 9337 R1/87



☐ YELLOW ☐ BLUE

MATERIALS SECTION

CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

467 RCP
PRODUCT CODE

PROJECT CODE | CLASS | STRUC CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY CY

29 | 29A | 09 20 93 | TAWNER

PLANT OR PIT

PROJECT NUMBER: IM 10-2(146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 20 20

	DESIGN WT LBS/CY	MOISTURE LBS/CY	BATCH WEIGHTS LBS/CY	FLY ASH LB/CY	TYPE	AMOUNT
CEMENT						
SAND						
C A #1						
C A #2						
WATER					ADMIX	OZ /CY
					A E A	OZ./CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

DATE SAMPLED MONTH DAY YEAR: 09 20 93 | SAMPLED BY: RDGZ R | QTY IN STRUC REP BY TEST: 8.5 CY | WATER ADD LB/CY

SAMPLE TIME: 20 35

STATION: 57+00 + 00 | PLACED IN PART OF STRUCTURE: PASSING LANE | STRUCT NO: B36

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site

AT SITE

ENTRAINED AIR SPEC	TO		
ENTRAINED AIR CONTENT		3.9	%
SLUMP SPEC	TO		IN
MEASURED SLUMP		5.0	IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | LB/LB
MAX W/C RATIO | LB/LB

CONCRETE TEMP 80 °F
AIR TEMP 81 °F

FIELD INSPECTOR S SIGNATURE

AT LAB

LAB NUMBER

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65, INPUT THE TEST VALUE IN 72 73

	MONTH	DAY
DATE		
C D IN		
ATE		

AGE | H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD LB | LB | AVERAGE

STRESS PSI | PSI | PSI

USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

	MONTH	DAY
DATE		
C D IN		
ATE	10	18

AGE | H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD: 71,925 LB | 71,900 LB | AVERAGE

STRESS: 4236 PSI | 4103 PSI | 4170 PSI

LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

USUAL ITEM NO. FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

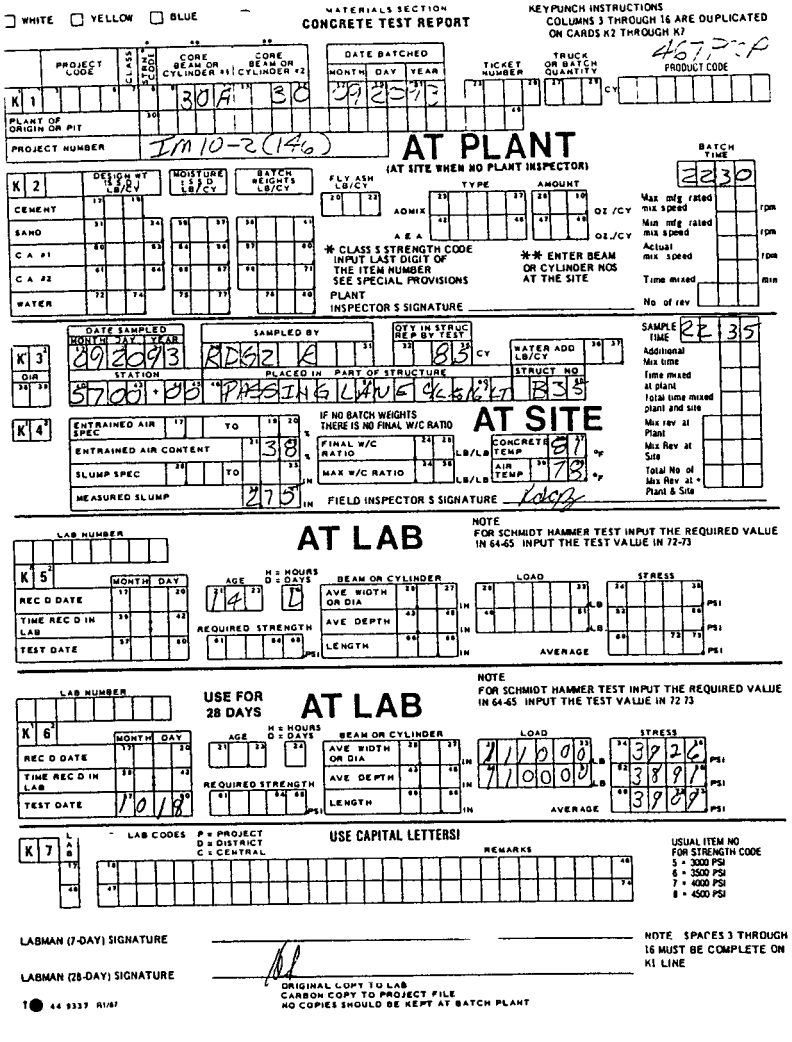
(7-DAY) SIGNATURE

(28-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

9337 R1/87



☐ WHITE ☐ YELLOW ☐ BLUE

MATERIALS SECTION

CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

467 PCP
PRODUCT CODE

K1 | PROJECT CODE | CLASS | STRUC CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY CY

30A | 30 | 09 20 93

PLANT OF ORIGIN OR PIT

PROJECT NUMBER: IM 10-2(146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 22 30

	DESIGN WT LBS/CY	MOISTURE LBS/CY	BATCH WEIGHTS LBS/CY	FLY ASH LB/CY	TYPE	AMOUNT
K2 CEMENT						
SAND						
C A #1						
C A #2						
WATER					ADMIX	OZ /CY
					A E A	OZ./CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

K3 DATE SAMPLED MONTH DAY YEAR: 09 20 93 | SAMPLED BY: RDGZ K | QTY IN STRUC REP BY TEST: 8.5 CY | WATER ADD LB/CY

SAMPLE TIME: 22 35

STATION: 57+00 + 00 | PLACED IN PART OF STRUCTURE: PASSING LANE | STRUCT NO: B35

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site

AT SITE

K4

ENTRAINED AIR SPEC	TO		
ENTRAINED AIR CONTENT		3.8	%
SLUMP SPEC	TO		IN
MEASURED SLUMP		2.75	IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | LB/LB
MAX W/C RATIO | LB/LB

CONCRETE TEMP 81 °F
AIR TEMP 79 °F

FIELD INSPECTOR S SIGNATURE

AT LAB

LAB NUMBER

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

K5

	MONTH	DAY
REC D DATE		
TIME REC D IN LAB		
TEST DATE		

AGE: 14 | H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD LB | LB | AVERAGE

STRESS PSI | PSI | PSI

USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

K6

	MONTH	DAY
REC D DATE		
TIME REC D IN LAB		
TEST DATE	10	18

AGE | H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD: 71,000 LB | 71,000 LB | AVERAGE

STRESS: 3726 PSI | 3891 PSI | 3809 PSI

K7 LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

USUAL ITEM NO. FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

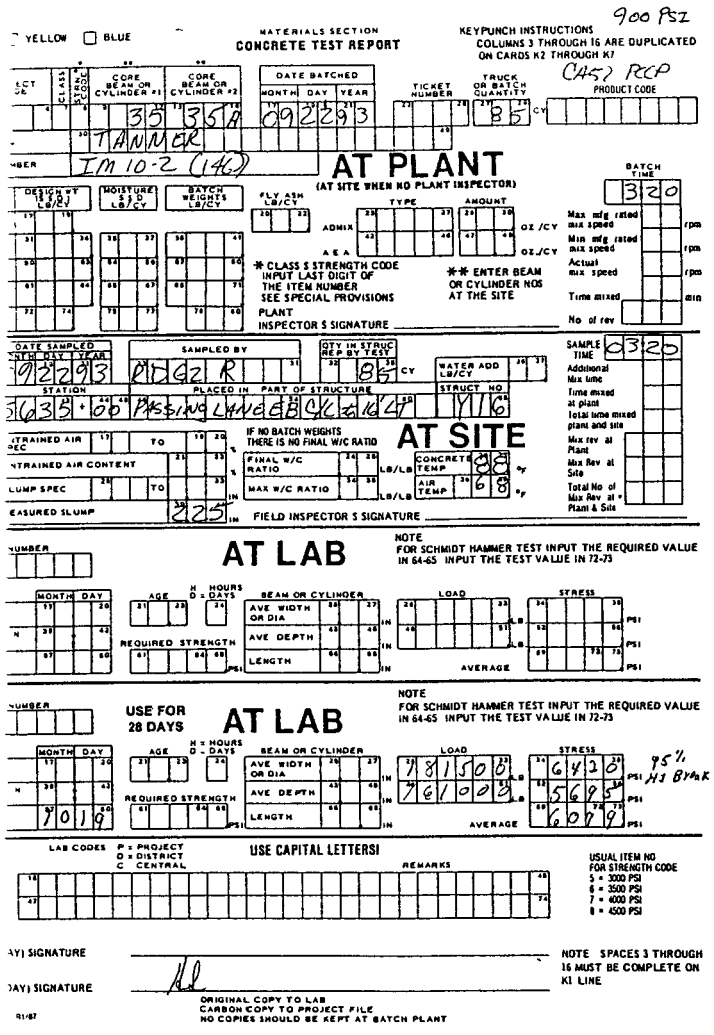
LABMAN (7-DAY) SIGNATURE

LABMAN (28-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

1 44 9337 R1/87



900 PSI

YELLOW BLUE

MATERIALS SECTION
CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

CLASS P CCP

CORE BEAM OR CYLINDER #1: 35
CORE BEAM OR CYLINDER #2: 35A
DATE BATCHED: 09 22 93
TRUCK OR BATCH QUANTITY: 85 CY
PRODUCT CODE:

PLANT OF ORIGIN OR PIT: TANNER
PROJECT NUMBER: IM 10-2 (146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 320

	DESIGN WT LB/CY	MOISTURE LB/CY	BATCH WEIGHTS LB/CY
CEMENT			
SAND			
C A #1			
C A #2			
WATER			

FLY ASH LB/CY
ADMIX TYPE / AMOUNT oz/CY
AEA oz/CY

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

PLANT INSPECTOR S SIGNATURE

DATE SAMPLED: 09 22 93
SAMPLED BY: DGR
QTY IN STRUC REP BY TEST: 85 CY
WATER ADD LB/CY
STRUCT NO: Y16
SAMPLE TIME: 0320

STATION: 563 + 00 PASSING LANE EB CA #1 #2
PLACED IN - PART OF STRUCTURE

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site

AT SITE

ENTRAINED AIR SPEC TO %
ENTRAINED AIR CONTENT %
SLUMP SPEC TO IN
MEASURED SLUMP 2.25 IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO LB/LB
MAX W/C RATIO LB/LB

CONCRETE TEMP 88 °F
AIR TEMP 68 °F

FIELD INSPECTOR S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

LAB NUMBER
REC'D DATE
TIME REC'D IN LAB
TEST DATE

AGE H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER
AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN

LOAD LB AVERAGE
STRESS PSI

USE FOR 28 DAYS AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

LAB NUMBER
REC'D DATE
TIME REC'D IN LAB
TEST DATE 10 19

AGE H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER
AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN

LOAD LB AVERAGE 71,610
STRESS PSI AVERAGE 6098

95% H3 Break

LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

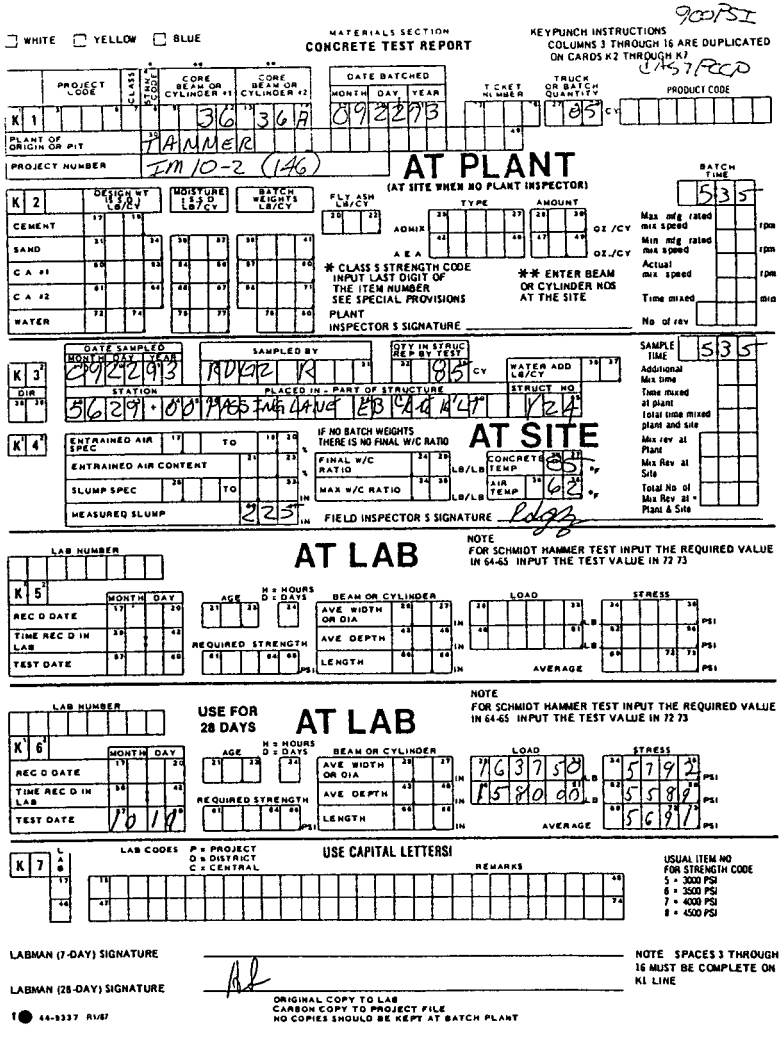
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

R1/87



900 PSI

WHITE YELLOW BLUE

MATERIALS SECTION
CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

CLASS P CCP

CORE BEAM OR CYLINDER #1: 36
CORE BEAM OR CYLINDER #2: 36A
DATE BATCHED: 09 22 93
TRUCK OR BATCH QUANTITY: 85 CY
PRODUCT CODE:

PLANT OF ORIGIN OR PIT: TANNER
PROJECT NUMBER: IM 10-2 (146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 535

	DESIGN WT LB/CY	MOISTURE LB/CY	BATCH WEIGHTS LB/CY
CEMENT			
SAND			
C A #1			
C A #2			
WATER			

FLY ASH LB/CY
ADMIX TYPE / AMOUNT oz/CY
AEA oz/CY

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

PLANT INSPECTOR S SIGNATURE

DATE SAMPLED: 09 22 93
SAMPLED BY: DGR
QTY IN STRUC REP BY TEST: 85 CY
WATER ADD LB/CY
STRUCT NO: V24
SAMPLE TIME: 0535

STATION: 562 + 00 PASSING LANE EB CA #1 #2
PLACED IN - PART OF STRUCTURE

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site

AT SITE

ENTRAINED AIR SPEC TO %
ENTRAINED AIR CONTENT %
SLUMP SPEC TO IN
MEASURED SLUMP 2.25 IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO LB/LB
MAX W/C RATIO LB/LB

CONCRETE TEMP 89 °F
AIR TEMP 62 °F

FIELD INSPECTOR S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

LAB NUMBER
REC'D DATE
TIME REC'D IN LAB
TEST DATE

AGE H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER
AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN

LOAD LB AVERAGE
STRESS PSI

USE FOR 28 DAYS AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

LAB NUMBER
REC'D DATE
TIME REC'D IN LAB
TEST DATE 10 19

AGE H = HOURS D = DAYS
REQUIRED STRENGTH PSI

BEAM OR CYLINDER
AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN

LOAD LB AVERAGE 76,375
STRESS PSI AVERAGE 5792

LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

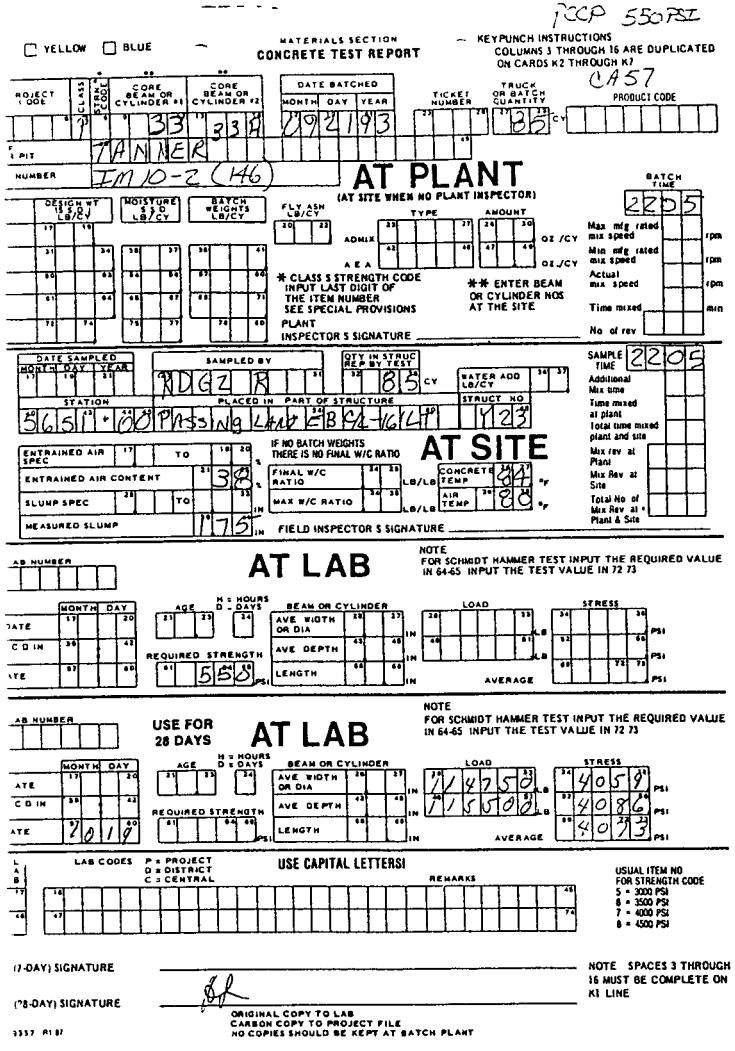
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

44-9337 R1/87



YELLOW BLUE

MATERIALS SECTION

CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

PCCP 550PSI

CA57

PROJECT CODE | CLASS | STRENGTH CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

1 | 33 | 33A | 09 21 93 | | 85 CY

PLANT OR PIT: TANNER

PROJECT NUMBER: IM10-2(146)

AT PLANT

(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 2205

DESIGN WT SSD LB/CY | MOISTURE SSD LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | ADMIX AREA TYPE | AMOUNT

OZ/CY

OZ/CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY

09 21 93 | RDG2 R | 85 CY

SAMPLE TIME: 2205

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Max rev at Plant
Max Rev at Site
Total No of Mix Rev at Plant & Site

STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

56+51+00 PASSING LANE EB PL-16(14) | M123

AT SITE

ENTRAINED AIR SPEC | TO | ENTRAINED AIR CONTENT 3.8 % | SLUMP SPEC | TO | MEASURED SLUMP 1.75 IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | MAX W/C RATIO LB/LB

CONCRETE TEMP 84 °F | AIR TEMP 88 °F

FIELD INSPECTOR S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

LAB NUMBER

DATE | MONTH DAY

AGE | H = HOURS D = DAYS

REQUIRED STRENGTH 550 PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD LB: AVERAGE

STRESS PSI

USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

LAB NUMBER

DATE | MONTH DAY | 10 19

AGE | H = HOURS D = DAYS

REQUIRED STRENGTH PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD LB: 47,500 | 45,000 | AVERAGE

STRESS PSI: 4058 | 4086 | 4013

LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

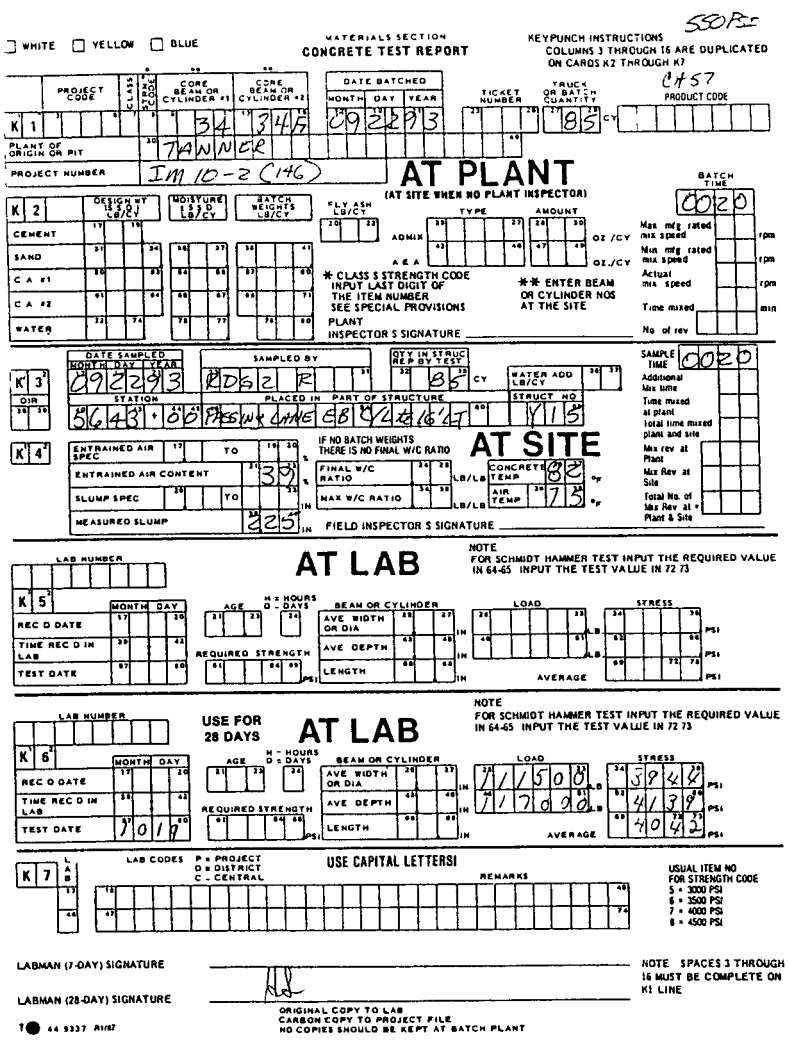
(7-DAY) SIGNATURE

(28-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

9337 R1 87



WHITE YELLOW BLUE

MATERIALS SECTION

CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

550PSI

CA57

K1 | PROJECT CODE | CLASS | STRENGTH CODE | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

1 | 34 | 34A | 09 22 93 | | 85 CY

PLANT OF ORIGIN OR PIT: TANNER

PROJECT NUMBER: IM10-2(146)

AT PLANT

(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME: 0020

K2 | DESIGN WT SSD LB/CY | MOISTURE SSD LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | ADMIX AREA TYPE | AMOUNT

CEMENT | SAND | CA #1 | CA #2 | WATER

OZ/CY

OZ/CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

K3 | DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY

09 22 93 | RDG2 R | 85 CY

SAMPLE TIME: 0020

DIR

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Max rev at Plant
Max Rev at Site
Total No. of Mix Rev at Plant & Site

STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

56+48+00 PASSING LANE EB PL-16(14) | M115

K4

AT SITE

ENTRAINED AIR SPEC | TO | ENTRAINED AIR CONTENT 3.9 % | SLUMP SPEC | TO | MEASURED SLUMP 2.25 IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO | MAX W/C RATIO LB/LB

CONCRETE TEMP 82 °F | AIR TEMP 75 °F

FIELD INSPECTOR S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

K5 | LAB NUMBER

REC D DATE | TIME REC D IN LAB | TEST DATE | MONTH DAY

AGE | H = HOURS D = DAYS

REQUIRED STRENGTH PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD LB: AVERAGE

STRESS PSI

USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

K6 | LAB NUMBER

REC D DATE | TIME REC D IN LAB | TEST DATE 10 19 | MONTH DAY

AGE | H = HOURS D = DAYS

REQUIRED STRENGTH PSI

BEAM OR CYLINDER: AVE WIDTH OR DIA IN | AVE DEPTH IN | LENGTH IN

LOAD LB: 71,150 | 71,700 | AVERAGE

STRESS PSI: 3948 | 4138 | 4042

K7 | LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

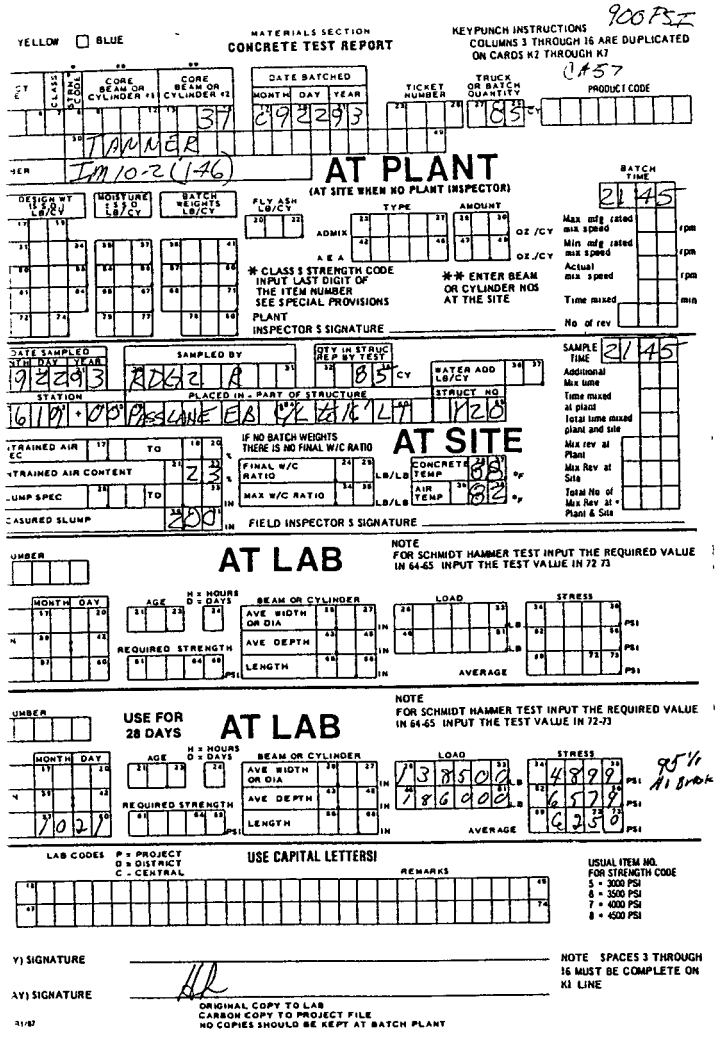
LABMAN (7-DAY) SIGNATURE

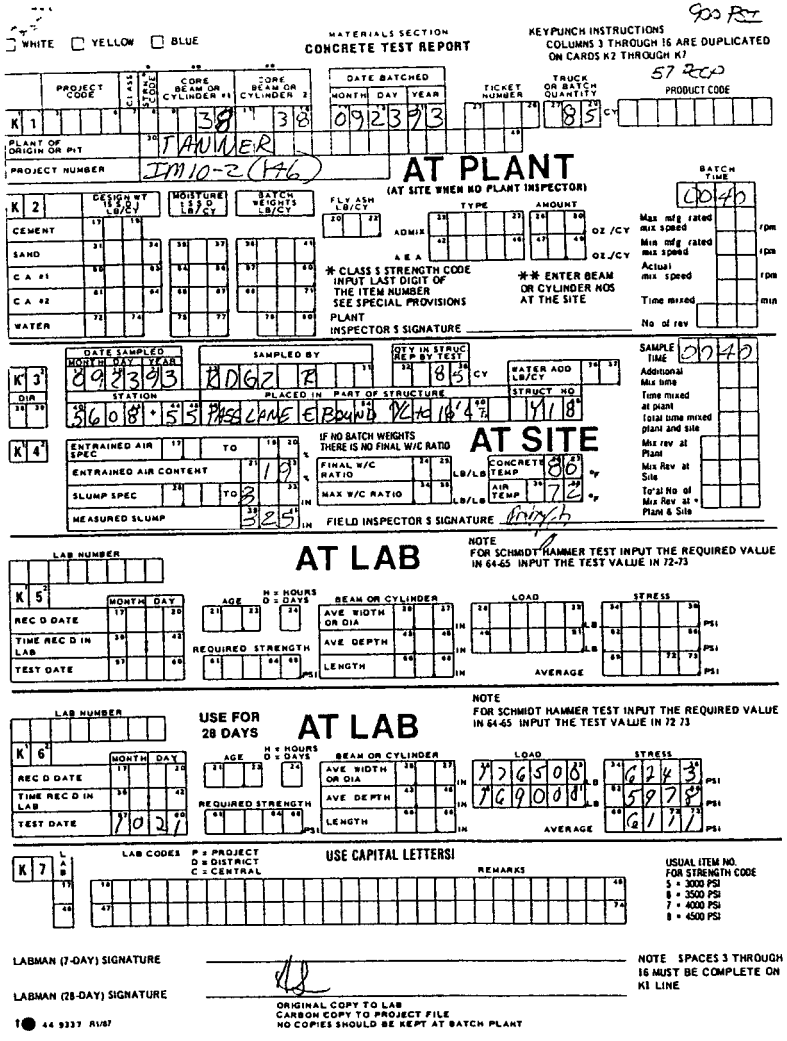
LABMAN (28-DAY) SIGNATURE

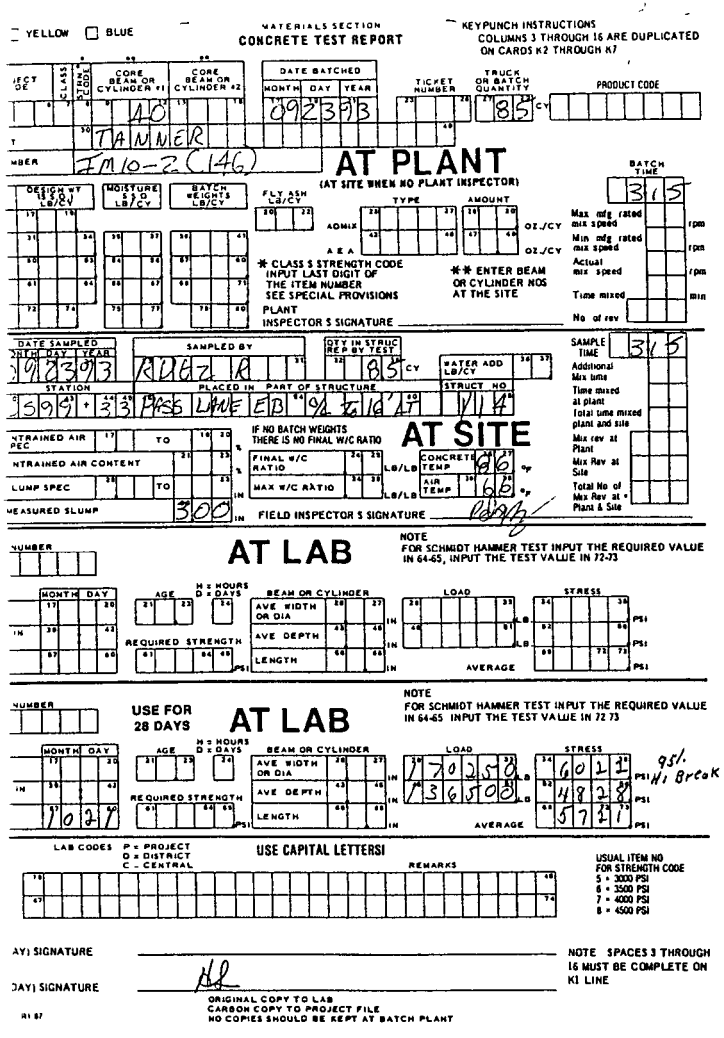
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

44 9337 R1/87


900 PSI
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
1457
37
09 23 93
85
TANNER
IM 10-2 (146)
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
DESIGN WT SSD LB/CY
MOISTURE SSD LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX
AEA
OZ /CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
BATCH TIME
21 45
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
SAMPLED BY
QTY IN STRUC REP BY TEST
WATER ADD LB/CY
STRUCT NO
SAMPLE TIME
9 23 93
RDG Z R
85
CY
21 45
STATION
PLACED IN - PART OF STRUCTURE
16 10+00
PASS LANE EB
EL 14 1/4 LT
M20
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at * Plant & Site
AT SITE
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
ENTRAINED AIR SPEC
ENTRAINED AIR CONTENT
SLUMP SPEC
MEASURED SLUMP
TO
2 3
2 00
IN
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
AIR TEMP
68
82
°F
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72 73
LAB NUMBER
MONTH DAY
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
PSI
USE FOR 28 DAYS
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
10 21
13 850 12
18 600 0
48 99
62 57 8
62 35 0
95 % Break
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO. FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
Y) SIGNATURE
AY) SIGNATURE
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
R1/87


900 PSI
WHITE
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
PROJECT CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER 2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
K 1
38
38
09 23 93
85
CY
PLANT OF ORIGIN OR PIT
TANNER
PROJECT NUMBER
IM 10-2 (146)
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
K 2
CEMENT
SAND
C A #1
C A #2
WATER
DESIGN WT SSD LB/CY
MOISTURE SSD LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX
AEA
OZ /CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
BATCH TIME
20 40
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
K 3
DIA
DATE SAMPLED
SAMPLED BY
QTY IN STRUC REP BY TEST
WATER ADD LB/CY
STRUCT NO
SAMPLE TIME
9 23 93
RDG Z R
85
CY
20 40
STATION
PLACED IN - PART OF STRUCTURE
16 08+55
PASS LANE EB
DWN 18'4"
M18
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at * Plant & Site
K 4
AT SITE
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
ENTRAINED AIR SPEC
ENTRAINED AIR CONTENT
SLUMP SPEC
MEASURED SLUMP
TO
1 9
3
3 85
IN
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
AIR TEMP
86
72
°F
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
LAB NUMBER
K 5
REC D DATE
TIME REC D IN LAB
TEST DATE
MONTH DAY
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
PSI
USE FOR 28 DAYS
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
K 6
1 10 21
32 650 8
16 900 8
62 43
62 57 8
60 21 0
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
K 7
USUAL ITEM NO. FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
44 9337 R1/87



YELLOW BLUE

MATERIALS SECTION
CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

PROJECT CODE | CLASS | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

40 | 09 23 93 | 85 CY

TANNER

IM10-2(146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME 315

DESIGN WT SSD LB/CY | MOISTURE SSD LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | TYPE | AMOUNT

ADMIX OZ/CY
AEA OZ/CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF THE ITEM NUMBER
SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY | SAMPLE TIME 315

Additional Mix time
Time mixed at plant
Total time mixed plant and site

STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

09 23 93 | RDGZ R | 85 CY

59G+33 PASS LANE EB 9½ to 16' LT | VIL4

ENTRAINED AIR SPEC TO %
ENTRAINED AIR CONTENT %
SLUMP SPEC TO IN
MEASURED SLUMP 300 IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

AT SITE

FINAL W/C RATIO LB/LB
MAX W/C RATIO LB/LB
CONCRETE TEMP 66 °F
AIR TEMP 66 °F

Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site

FIELD INSPECTOR S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65, INPUT THE TEST VALUE IN 72-73

LAB NUMBER | MONTH DAY | AGE H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN

REQUIRED STRENGTH PSI
AVERAGE LB PSI

USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

LAB NUMBER | MONTH DAY | AGE H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

10 27 | 170250 LB | 60125 PSI
136500 LB | 48285 PSI
AVERAGE | 57210 PSI

95% Hi Break

LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

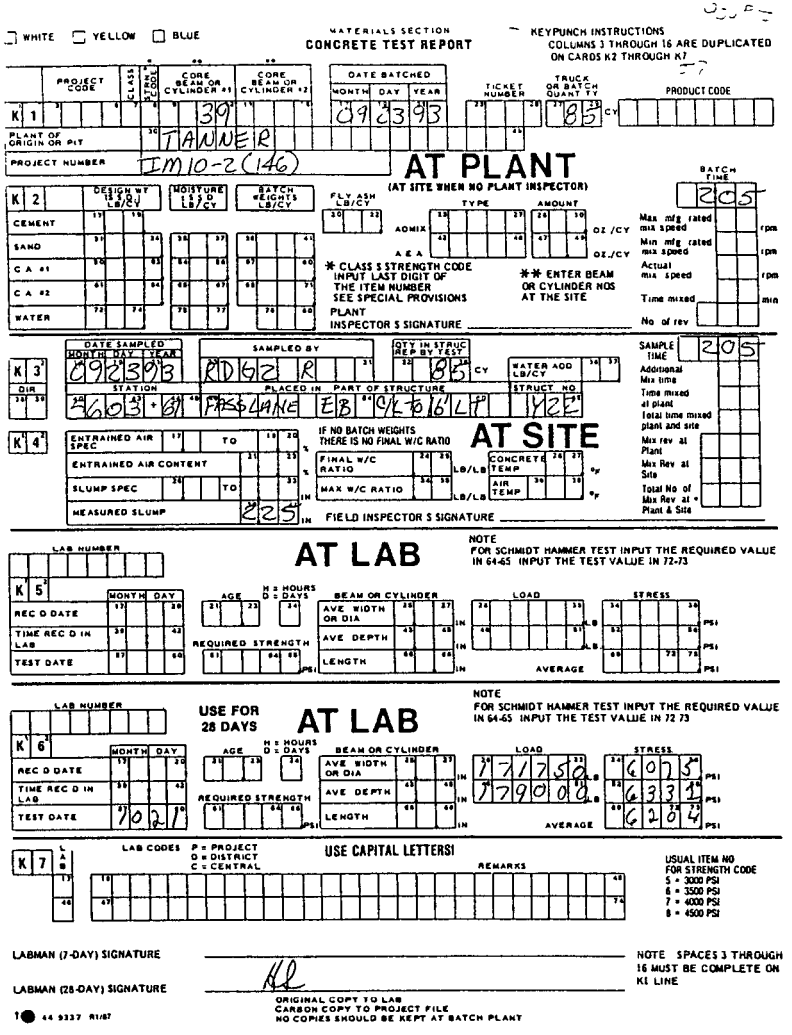
AY) SIGNATURE

DAY) SIGNATURE Al

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

RI 87



WHITE YELLOW BLUE

MATERIALS SECTION
CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

K1 | PROJECT CODE | CLASS | CORE BEAM OR CYLINDER #1 | CORE BEAM OR CYLINDER #2 | DATE BATCHED MONTH DAY YEAR | TICKET NUMBER | TRUCK OR BATCH QUANTITY | PRODUCT CODE

30 | 09 23 93 | 85 CY

PLANT OF ORIGIN OR PIT TANNER

PROJECT NUMBER IM10-2(146)

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

BATCH TIME 2105

K2 | DESIGN WT SSD LB/CY | MOISTURE SSD LB/CY | BATCH WEIGHTS LB/CY | FLY ASH LB/CY | TYPE | AMOUNT

CEMENT
SAND
C A #1
C A #2
WATER

ADMIX OZ/CY
AEA OZ/CY

Max mfg rated mix speed rpm
Min mfg rated mix speed rpm
Actual mix speed rpm
Time mixed min
No of rev

* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF THE ITEM NUMBER
SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

K3 | DATE SAMPLED MONTH DAY YEAR | SAMPLED BY | QTY IN STRUC REP BY TEST | WATER ADD LB/CY | SAMPLE TIME 2105

DIR | STATION | PLACED IN PART OF STRUCTURE | STRUCT NO

Additional Mix time
Time mixed at plant
Total time mixed plant and site

09 23 93 | RDGZ R | 85 CY

56G3+61 PASS LANE EB 9½ to 16' LT | M2E

K4 | ENTRAINED AIR SPEC TO %
ENTRAINED AIR CONTENT %
SLUMP SPEC TO IN
MEASURED SLUMP 2¼ IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

AT SITE

FINAL W/C RATIO LB/LB
MAX W/C RATIO LB/LB
CONCRETE TEMP °F
AIR TEMP °F

Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site

FIELD INSPECTOR S SIGNATURE

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

K5 | LAB NUMBER | MONTH DAY | AGE H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

REC'D DATE
TIME REC'D IN LAB
TEST DATE

AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN

REQUIRED STRENGTH PSI
AVERAGE LB PSI

USE FOR 28 DAYS

AT LAB

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

K6 | LAB NUMBER | MONTH DAY | AGE H = HOURS D = DAYS | BEAM OR CYLINDER | LOAD | STRESS

REC'D DATE
TIME REC'D IN LAB
TEST DATE 10 27

AVE WIDTH OR DIA IN
AVE DEPTH IN
LENGTH IN

REQUIRED STRENGTH PSI
AVERAGE LB PSI

171750 LB | 60715 PSI
179008 LB | 63311 PSI
AVERAGE | 62064 PSI

K7 LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI

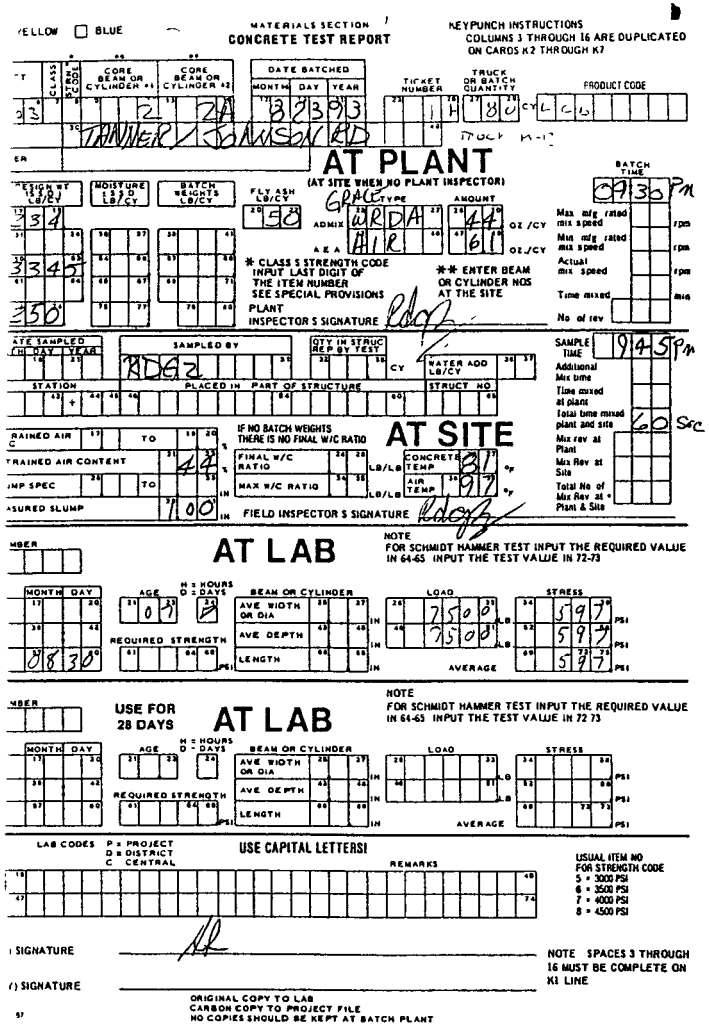
LABMAN (7-DAY) SIGNATURE

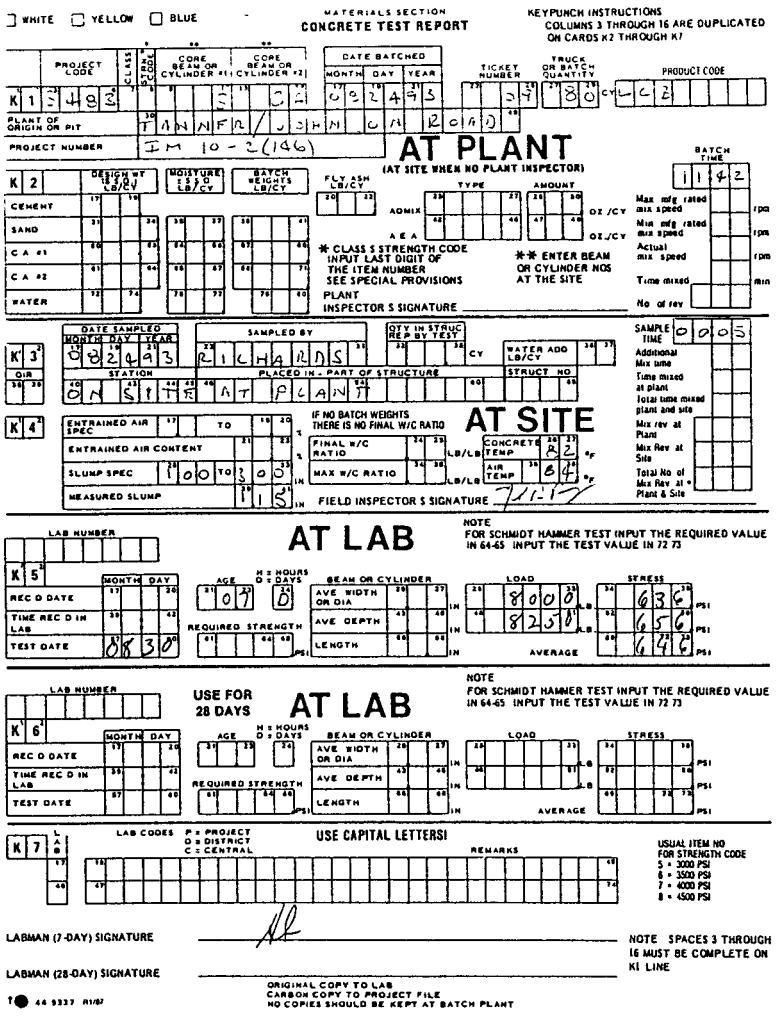
LABMAN (28-DAY) SIGNATURE Al

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

44 9337 RI/87


YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
TANNER / JOHNSON RD
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
BATCH TIME
DESIGN WT LB/CY
MOISTURE LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
ADMIX
TYPE
AMOUNT
GRACE
WRDA
AIR
OZ/CY
* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS
** ENTER BEAM OR CYLINDER NOS AT THE SITE
PLANT INSPECTOR S SIGNATURE
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
SAMPLED BY
QTY IN STRUC REP BY TEST
WATER ADD LB/CY
SAMPLE TIME
STATION
PLACED IN PART OF STRUCTURE
STRUCT NO
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO
ENTRAINED AIR
TO
ENTRAINED AIR CONTENT
SLUMP SPEC
MEASURED SLUMP
FINAL W/C RATIO
MAX W/C RATIO
CONCRETE TEMP
AIR TEMP
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73
LAB NUMBER
AGE
H = HOURS D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
USE FOR 28 DAYS
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
SIGNATURE
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT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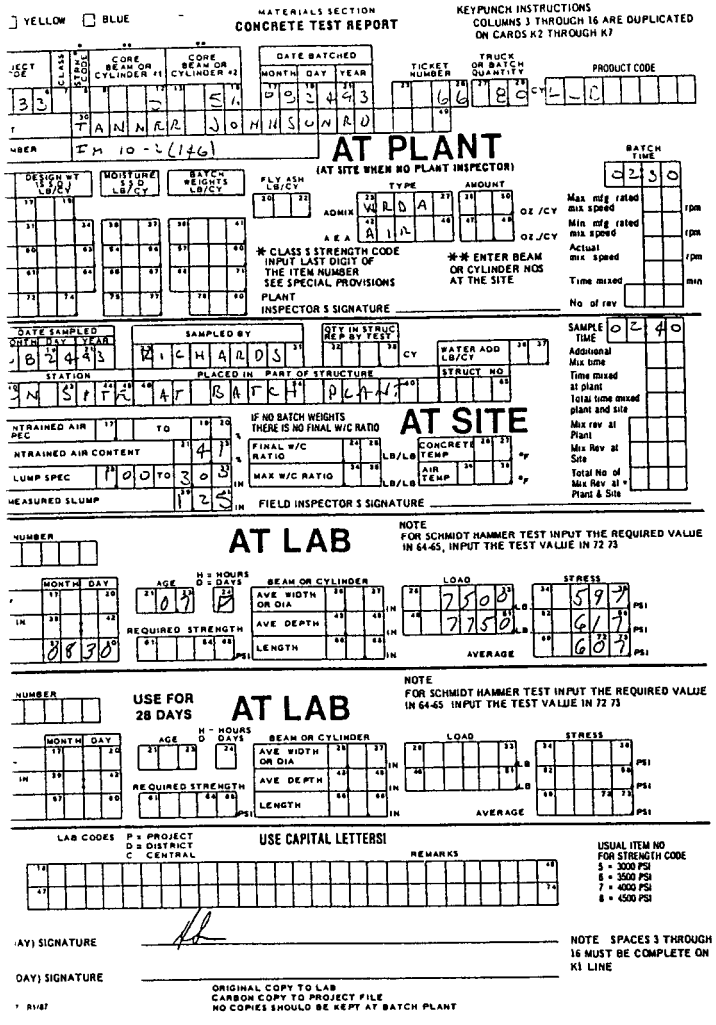
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7
PROJECT CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
PLANT OF ORIGIN OR PIT
TANNER / JOHNSON ROAD
PROJECT NUMBER
IM 10-2(196)
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
BATCH TIME
CEMENT
SAND
CA #1
CA #2
WATER
DESIGN WT LB/CY
MOISTURE LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
ADMIX
TYPE
AMOUNT
* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS
** ENTER BEAM OR CYLINDER NOS AT THE SITE
PLANT INSPECTOR S SIGNATURE
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
SAMPLED BY
QTY IN STRUC REP BY TEST
WATER ADD LB/CY
SAMPLE TIME
STATION
PLACED IN PART OF STRUCTURE
STRUCT NO
ON SITE AT PLANT
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT
SLUMP SPEC
MEASURED SLUMP
FINAL W/C RATIO
MAX W/C RATIO
CONCRETE TEMP
AIR TEMP
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73
LAB NUMBER
REC D DATE
TIME REC D IN LAB
TEST DATE
AGE
H = HOURS D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
USE FOR 28 DAYS
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT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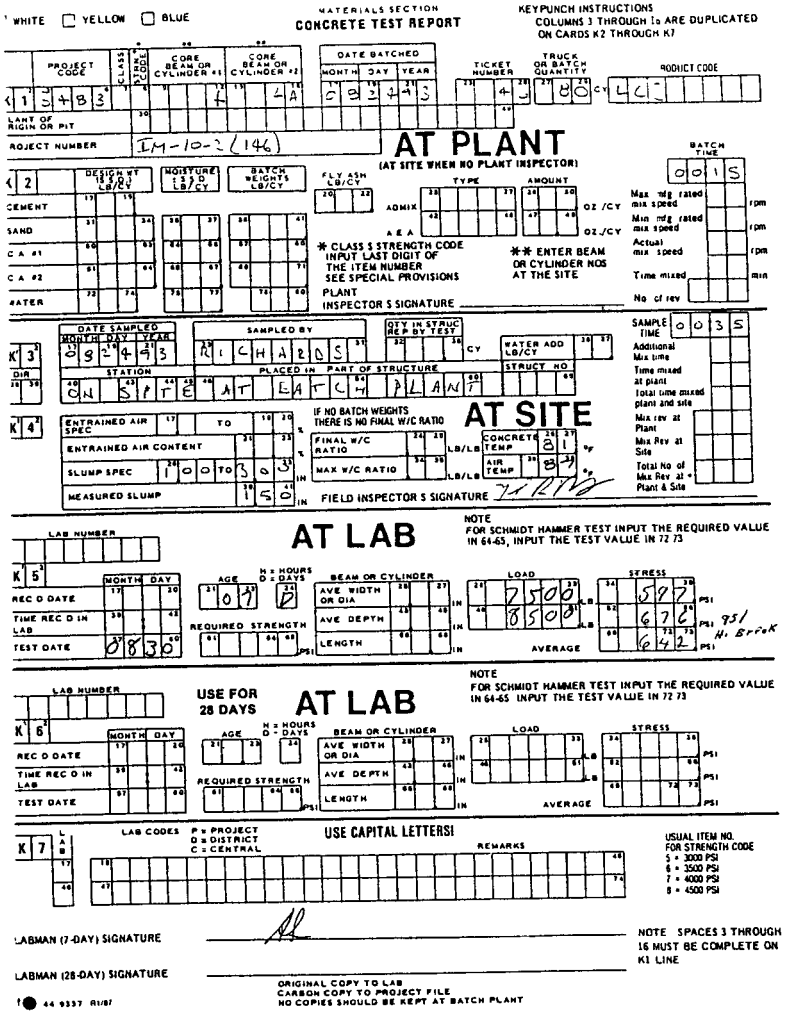
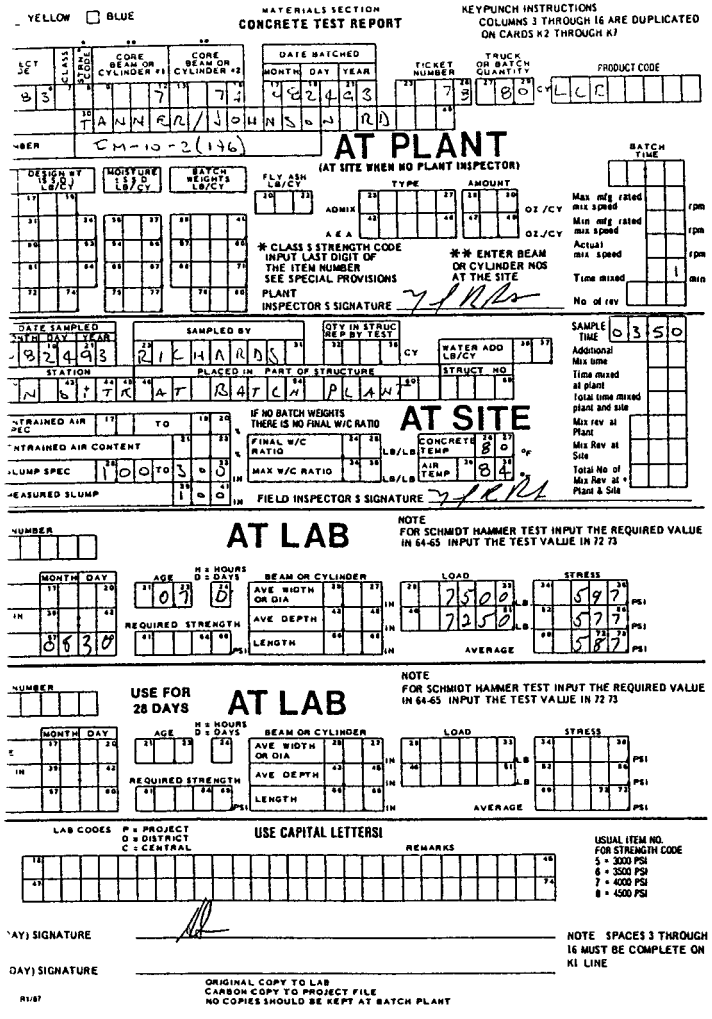
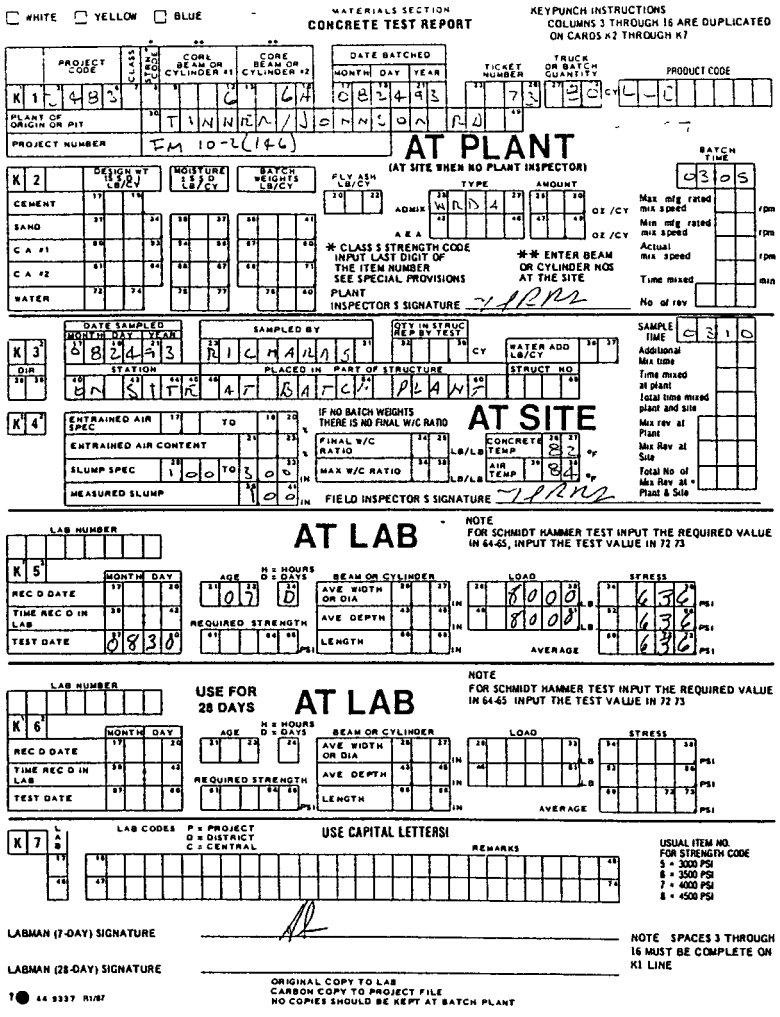
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
PROJECT CODE
CLASS
STRENGTH CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
TANNER JOHNSON RD
IM 10-2(146)
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
BATCH TIME
DESIGN WT LB/CY
MOISTURE ± LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX
WRDA
AEA
AIR
OZ/CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
MONTH DAY YEAR
SAMPLED BY
RICHARDS
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
STRUCT NO
STATION
PLACED IN PART OF STRUCTURE
ON STATE AT BATCH PLANT
SAMPLE TIME
0240
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT
4.5
SLUMP SPEC
1.00 TO 3.00
MEASURED SLUMP
1.25
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
AIR TEMP
°F
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65, INPUT THE TEST VALUE IN 72 73
LAB NUMBER
REC'D DATE
TIME REC'D IN LAB
TEST DATE
08 30
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
IN
LOAD
7500
7750
AVERAGE
LB
STRESS
597
617
603
PSI
REQUIRED STRENGTH
USE FOR 28 DAYS
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72 73
LAB CODES
P = PROJECT
D = DISTRICT
C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO
FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
(7-DAY) SIGNATURE
(28-DAY) SIGNATURE
NOTE SPACES 3 THROUGH
16 MUST BE COMPLETE ON
K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
R1/87


WHITE
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
PROJECT CODE
CLASS
STRENGTH CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
13483
74
080
LANE OF RIGIN OR PIT
PROJECT NUMBER
IM-10-2(146)
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
BATCH TIME
0015
DESIGN WT LB/CY
MOISTURE ± LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX
AEA
OZ/CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
CEMENT
SAND
CA #1
CA #2
WATER
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
MONTH DAY YEAR
SAMPLED BY
RICHARDS
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
STRUCT NO
STATION
PLACED IN PART OF STRUCTURE
ON STATE AT EAFCH PLANT
SAMPLE TIME
0035
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT
SLUMP SPEC
1.00 TO 3.00
MEASURED SLUMP
1.50
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
81
AIR TEMP
°F
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65, INPUT THE TEST VALUE IN 72 73
LAB NUMBER
REC'D DATE
TIME REC'D IN LAB
TEST DATE
08 30
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
IN
LOAD
7500
8500
AVERAGE
LB
STRESS
597
676
642
PSI
REQUIRED STRENGTH
95/ H. Brock
USE FOR 28 DAYS
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72 73
LAB CODES
P = PROJECT
D = DISTRICT
C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO.
FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
(7-DAY) SIGNATURE
(28-DAY) SIGNATURE
NOTE SPACES 3 THROUGH
16 MUST BE COMPLETE ON
K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
44 9337 R1/87


YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7
CLASS
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
TANNER/JOHNSON RD
FM-10-2(146)
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
DESIGN WT (SSD) LB/CY
MOISTURE (SSD) LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX
AREA
OZ/CY
* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS
** ENTER BEAM OR CYLINDER NOS AT THE SITE
PLANT INSPECTOR'S SIGNATURE
BATCH TIME
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
SAMPLED BY
QTY IN STRUC REP BY TEST
WATER ADD LB/CY
STRUCT NO
STATION
PLACED IN PART OF STRUCTURE
RICHARDS
N 61+TR AT BATCH PLANT
SAMPLE TIME 0350
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
ENTRAINED AIR SPEC
ENTRAINED AIR CONTENT
SLUMP SPEC 100 TO 300 IN
MEASURED SLUMP 100 IN
IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP 80 °F
AIR TEMP 84 °F
FIELD INSPECTOR'S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73
LAB NUMBER
AGE
H = HOURS D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
08 30
2500 LB 57 PSI
2750 LB 57 PSI
5817 PSI
USE FOR 28 DAYS
AT LAB
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO. FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
7-DAY) SIGNATURE
28-DAY) SIGNATURE
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
R1/87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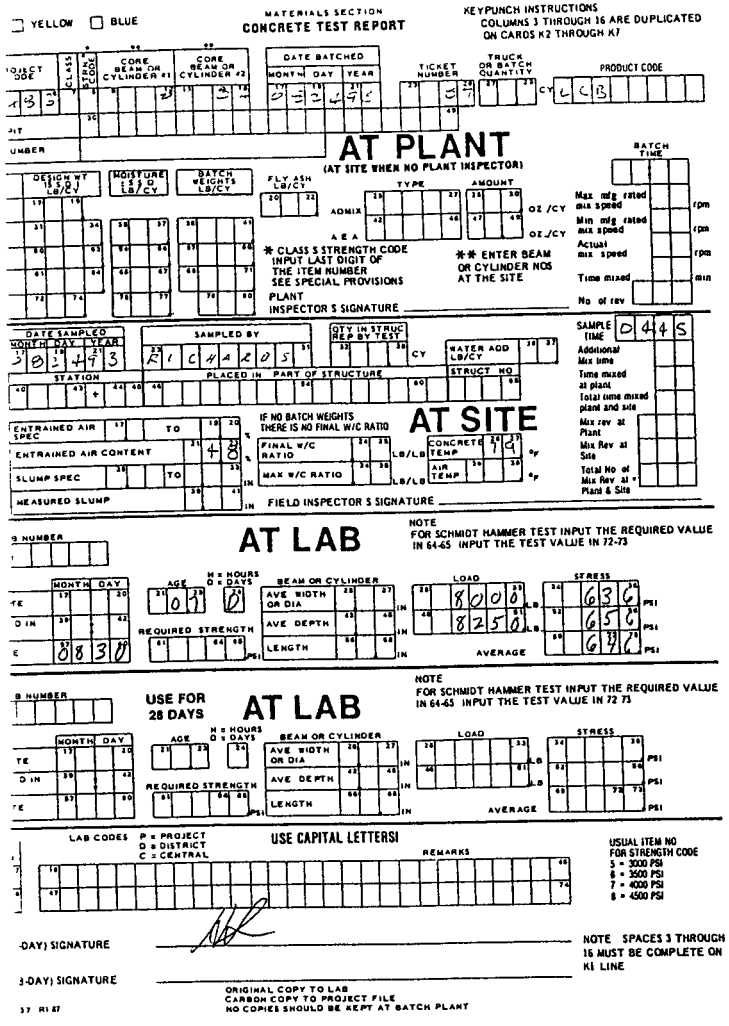
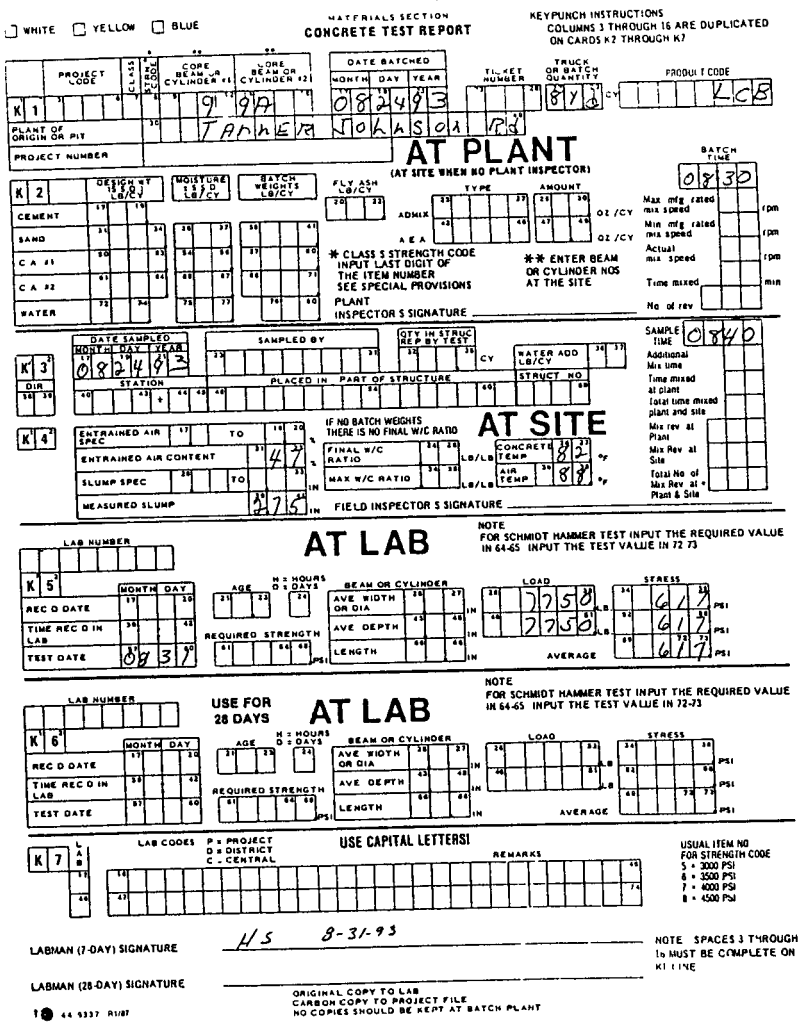
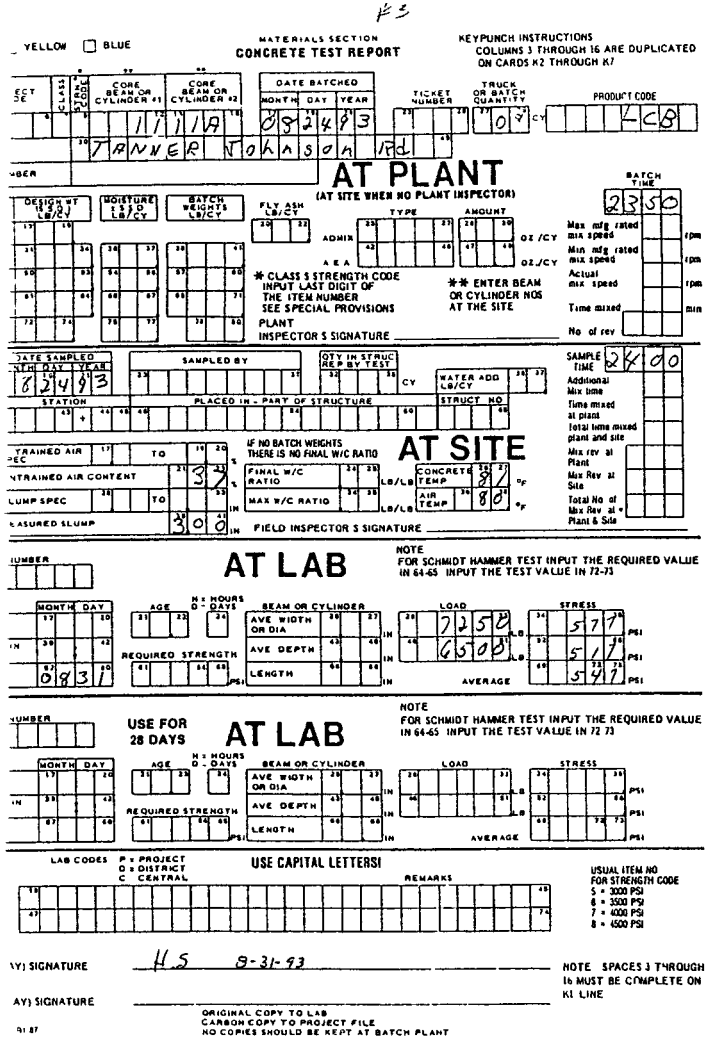
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7
PROJECT CODE
CLASS
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
PLANT OF ORIGIN OR PIT
PROJECT NUMBER
TANNER/JOHNSON RD
FM 10-2(146)
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
CEMENT
SAND
CA #1
CA #2
WATER
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX WRDA
AREA
OZ/CY
* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS
** ENTER BEAM OR CYLINDER NOS AT THE SITE
PLANT INSPECTOR'S SIGNATURE
BATCH TIME 0930
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED 08 24 93
SAMPLED BY RICHARDS
QTY IN STRUC REP BY TEST
WATER ADD LB/CY
STRUCT NO
DIR
STATION
PLACED IN PART OF STRUCTURE
SAMPLE TIME 0310
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
ENTRAINED AIR SPEC
ENTRAINED AIR CONTENT
SLUMP SPEC 100 TO 300 IN
MEASURED SLUMP 100 IN
IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP 82 °F
AIR TEMP 84 °F
FIELD INSPECTOR'S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65, INPUT THE TEST VALUE IN 72 73
LAB NUMBER
REC'D DATE
TIME REC'D IN LAB
TEST DATE 08 30
AGE 07 D
H = HOURS D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
8000 LB 6316 PSI
8000 LB 6316 PSI
6316 PSI
AVERAGE
USE FOR 28 DAYS
AT LAB
LAB CODES P = PROJECT D = DISTRICT C = CENTRAL
USE CAPITAL LETTERS!
REMARKS
USUAL ITEM NO. FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT
44 9337 R1/87


YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
AT SITE
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
USE FOR
28 DAYS
AT LAB
USE CAPITAL LETTERS!
LAB CODES P = PROJECT
D = DISTRICT
C = CENTRAL
USUAL ITEM NO
FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
-DAY) SIGNATURE
3-DAY) SIGNATURE
NOTE SPACES 3 THROUGH
16 MUST BE COMPLETE ON
K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT


#1
WHITE
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
AT SITE
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
USE FOR
28 DAYS
AT LAB
USE CAPITAL LETTERS!
LAB CODES P = PROJECT
D = DISTRICT
C = CENTRAL
USUAL ITEM NO
FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
8-31-93
NOTE SPACES 3 THROUGH
16 MUST BE COMPLETE ON
K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT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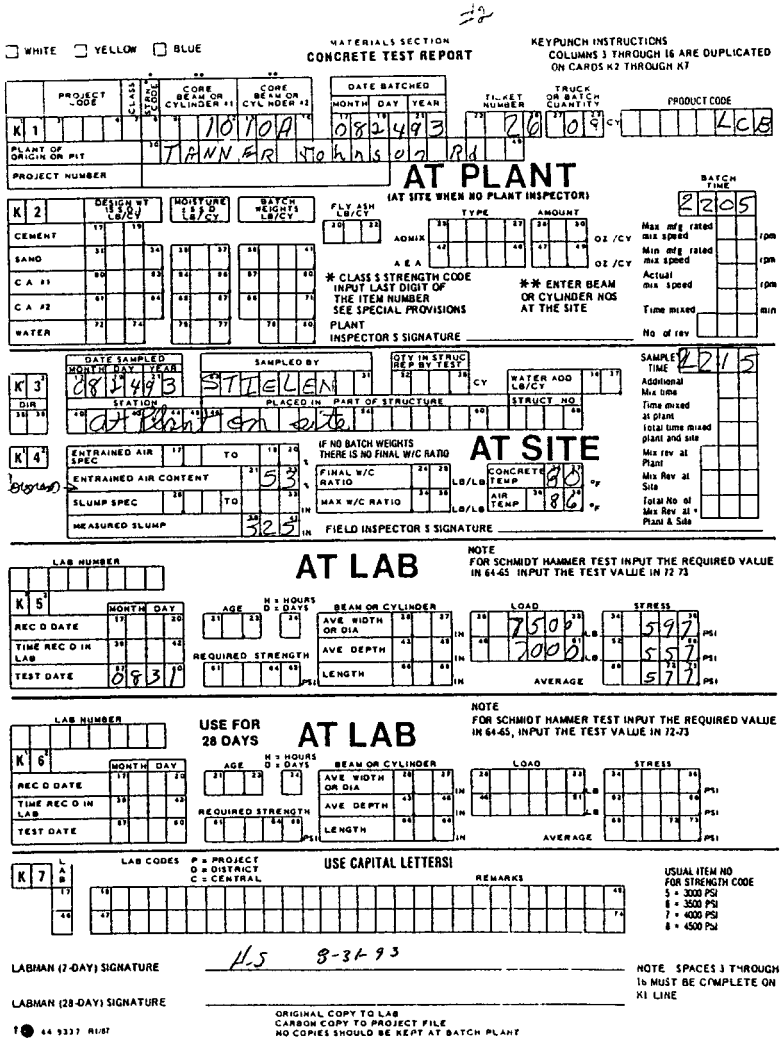
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
11 11 1A
08 24 93
07 CY
LCB
TANNER Johnson Rd
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
BATCH TIME
23 50
DESIGN WT LB/CY
MOISTURE LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX
AREA
OZ/CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
DATE SAMPLED
MONTH DAY YEAR
8 24 93
SAMPLED BY
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
STATION
PLACED IN - PART OF STRUCTURE
STRUCT NO
SAMPLE TIME
24 00
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Max Rev at Site
Total No of Mix Rev at Plant & Site
AT SITE
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT
SLUMP SPEC
MEASURED SLUMP
3 7
3 0 0
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
AIR TEMP
°F
82
80
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
LAB NUMBER
MONTH DAY
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
PSI
08 31
7250
6500
5717
5177
5471
USE FOR 28 DAYS
AT LAB
USE CAPITAL LETTERS!
LAB CODES
P = PROJECT
D = DISTRICT
C = CENTRAL
REMARKS
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
H.S 8-31-93
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT


#2
WHITE
YELLOW
BLUE
MATERIALS SECTION
CONCRETE TEST REPORT
KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED
ON CARDS K2 THROUGH K7
PROJECT CODE
CORE BEAM OR CYLINDER #1
CORE BEAM OR CYLINDER #2
DATE BATCHED
MONTH DAY YEAR
TICKET NUMBER
TRUCK OR BATCH QUANTITY
PRODUCT CODE
K1
10 10A
08 24 93
2 16
10 CY
LCB
PLANT OF ORIGIN OR PIT
TANNER Johnson Rd
PROJECT NUMBER
AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)
BATCH TIME
22 05
K2
CEMENT
SAND
CA #1
CA #2
WATER
DESIGN WT LB/CY
MOISTURE LB/CY
BATCH WEIGHTS LB/CY
FLY ASH LB/CY
TYPE
AMOUNT
ADMIX
AREA
OZ/CY
* CLASS S STRENGTH CODE
INPUT LAST DIGIT OF
THE ITEM NUMBER
SEE SPECIAL PROVISIONS
** ENTER BEAM
OR CYLINDER NOS
AT THE SITE
PLANT
INSPECTOR S SIGNATURE
Max mfg rated mix speed
Min mfg rated mix speed
Actual mix speed
Time mixed
No of rev
rpm
min
K3
DIR
DATE SAMPLED
MONTH DAY YEAR
08 24 93
SAMPLED BY
STIELEN
QTY IN STRUC REP BY TEST
CY
WATER ADD LB/CY
STATION
PLACED IN - PART OF STRUCTURE
STRUCT NO
SAMPLE TIME
22 15
Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site
K4
Bigstaff
AT SITE
IF NO BATCH WEIGHTS
THERE IS NO FINAL W/C RATIO
ENTRAINED AIR SPEC
TO
ENTRAINED AIR CONTENT
SLUMP SPEC
MEASURED SLUMP
5 3
3 2 5
FINAL W/C RATIO
MAX W/C RATIO
LB/LB
CONCRETE TEMP
AIR TEMP
°F
90
86
FIELD INSPECTOR S SIGNATURE
AT LAB
NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE
IN 64-65 INPUT THE TEST VALUE IN 72-73
K5
LAB NUMBER
MONTH DAY
REC D DATE
TIME REC D IN LAB
TEST DATE
AGE
H = HOURS
D = DAYS
BEAM OR CYLINDER
AVE WIDTH OR DIA
AVE DEPTH
LENGTH
LOAD
STRESS
REQUIRED STRENGTH
AVERAGE
PSI
08 31
7500
10006
5577
5177
USE FOR 28 DAYS
AT LAB
K6
USE CAPITAL LETTERS!
K7
LAB
LAB CODES
P = PROJECT
D = DISTRICT
C = CENTRAL
REMARKS
USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 = 4000 PSI
8 = 4500 PSI
LABMAN (7-DAY) SIGNATURE
LABMAN (28-DAY) SIGNATURE
H.S 8-31-93
NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE
ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

#4

☐ WHITE ☐ YELLOW ☐ BLUE

MATERIALS SECTION
CONCRETE TEST REPORT

KEYPUNCH INSTRUCTIONS
COLUMNS 3 THROUGH 16 ARE DUPLICATED ON CARDS K2 THROUGH K7

K1

PROJECT CODE	CLASS	STRN CODE	CORE BEAM OR CYLINDER #1	CORE BEAM OR CYLINDER #2	DATE BATCHED MONTH	DAY	YEAR	TICKET NUMBER	TRUCK OR BATCH QUANTITY	PRODUCT CODE
			12	12A	08	24	93		09 CY	LCB

PLANT OF ORIGIN OR PIT: TANNER Johnson Rd

PROJECT NUMBER:

AT PLANT
(AT SITE WHEN NO PLANT INSPECTOR)

K2

	DESIGN WT (S S D) LB/CY	MOISTURE (S S D) LB/CY	BATCH WEIGHTS LB/CY
CEMENT			
SAND			
C A #1			
C A #2			
WATER			

FLY ASH LB/CY

TYPE: ADMIX / AEA — AMOUNT: OZ/CY, OZ/CY

* CLASS S STRENGTH CODE INPUT LAST DIGIT OF THE ITEM NUMBER SEE SPECIAL PROVISIONS

** ENTER BEAM OR CYLINDER NOS AT THE SITE

PLANT INSPECTOR S SIGNATURE

BATCH TIME
Max mfg rated mix speed — rpm
Min mfg rated mix speed — rpm
Actual mix speed — rpm
Time mixed — min
No of rev

K3

DIR	DATE SAMPLED MONTH	DAY	YEAR	SAMPLED BY	QTY IN STRUC REP BY TEST	WATER ADD LB/CY	SAMPLE TIME
	08	24	93		CY		0045

STATION: + — PLACED IN PART OF STRUCTURE — STRUCT NO

K4

ENTRAINED AIR SPEC	TO	%
ENTRAINED AIR CONTENT	39	%
SLUMP SPEC	TO	IN
MEASURED SLUMP	250	IN

IF NO BATCH WEIGHTS THERE IS NO FINAL W/C RATIO

AT SITE

FINAL W/C RATIO		LB/LB
MAX W/C RATIO		LB/LB
CONCRETE TEMP	80	°F
AIR TEMP	78	°F

FIELD INSPECTOR S SIGNATURE

Additional Mix time
Time mixed at plant
Total time mixed plant and site
Mix rev at Plant
Mix Rev at Site
Total No of Mix Rev at Plant & Site

AT LAB

LAB NUMBER

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72-73

K5

	MONTH	DAY
REC D DATE		
TIME REC D IN LAB		
TEST DATE		

AGE — H = HOURS D = DAYS

REQUIRED STRENGTH — PSI

BEAM OR CYLINDER		LOAD	STRESS
AVE WIDTH OR DIA	IN	8000 LB	636 PSI
AVE DEPTH	IN	8000 LB	636 PSI
LENGTH	IN	AVERAGE	636 PSI

AT LAB

USE FOR 28 DAYS

LAB NUMBER

NOTE
FOR SCHMIDT HAMMER TEST INPUT THE REQUIRED VALUE IN 64-65 INPUT THE TEST VALUE IN 72 73

K6

	MONTH	DAY
REC D DATE		
TIME REC D IN LAB		
TEST DATE		

AGE — H = HOURS D = DAYS

REQUIRED STRENGTH — PSI

BEAM OR CYLINDER		LOAD	STRESS
AVE WIDTH OR DIA	IN	LB	PSI
AVE DEPTH	IN	LB	PSI
LENGTH	IN	AVERAGE	PSI

K7

LAB CODES P = PROJECT D = DISTRICT C = CENTRAL

USE CAPITAL LETTERS!

REMARKS

USUAL ITEM NO FOR STRENGTH CODE
5 = 3000 PSI
6 = 3500 PSI
7 4000 PSI
8 = 4500 PSI

LABMAN (7-DAY) SIGNATURE: HS 8-31-93

LABMAN (28-DAY) SIGNATURE

NOTE SPACES 3 THROUGH 16 MUST BE COMPLETE ON K1 LINE

ORIGINAL COPY TO LAB
CARBON COPY TO PROJECT FILE
NO COPIES SHOULD BE KEPT AT BATCH PLANT

44 9337 R1/87

ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

LAB NUMBER: [ ] PROJ CODE: 3403 MATL: CA TYPE: ST PURPOSE: A LAB: P SPEC # SIZE SIZE
TEST NO: 2 LOT OR SUFFIX SAMPLED BY: W.C.C.Davis NO: 01 DAY: 23 YEAR: 93 TIME: 0930
SAMPLED FROM: STOCKPILE
LIFT NO. P = PIT E = EXC I = IN PLACE
ORIGINAL SOURCE: Rodeo STATION OR PIT NO. RDWY PLACE
PROJECT NUMBER: IM-10-2(146) PROJECT ENGINEER: S BRUBAKER
REMARKS
USE CAPITAL LETTERS!
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

T = AASHTO Tests

% OVERSIZE ARIZ 201 COARSE FACTOR: 611983 (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3					
2½					
2					
1½			100	100	0
1			100	95-100	
3/4	172	21	79		21
1/2	347	42	37	25-60	
3/8	144	17	20		80
#4	127	15	5		
#8	225	3	2	0-10	98
Total	810				

WT PASS #4: SPLIT: FINE SIEVE FACTOR: (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	
#8	18	1	1	0-5	99
#10	92	1	0		
#16				100	
#30				100	
#40					
#50				100	
#100				100	
#200					
-#200					
Total					
Elution stage					

Dry Weight

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100 = 6.98
NECESSARY FOR ALL FA & CA

Liquid Limit (LL) T 89
Plastic Limit (PL) T 90
Plasticity Index (PI) = LL - PL T 90
SPECS

Abrasion (A B C D) T 96
100 Revolutions
500 Revolutions

Absorption H_2O ARIZ 211 T 85
Specific Gravity SSD
Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np)
Total Sample Weight (W_a) (np)
Fractured Faces FF $\frac{W_f}{W_a} \times 100$ ARIZ 212

Wet Weight (W) (np)
Dry Weight (D) (np)
Moisture Content = $\frac{W-D}{D} \times 100$ T 255

FLAKINESS INDEX ARIZ 233

ph Ariz 236 or 237
Resistivity (ohm-cm) Ariz 236
Soluble Salts (PPM) Ariz 237

WHITE
YELLOW
BLUE

RECEIVED DATE
TEST OPERATOR AND DATE: HC
SUPERVISOR AND DATE: Jon Wilkes 8-24-93
SEE BACK ALSO

ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

LAB NUMBER: G1 PROJ CODE: 3403 MATL: CA TYPE: ST PURPOSE: A LAB: P SPEC # SIZE SIZE
TEST NO: 1 LOT OR SUFFIX SAMPLED BY: STEVE BU NO: 08 DAY: 18 YEAR: 93 TIME: 0630
SAMPLED FROM: STOCKPILE
LIFT NO. P = PIT E = EXC I = IN PLACE
ORIGINAL SOURCE: Robles STATION OR PIT NO. RDWY PLACE
PROJECT NUMBER: H293601C PROJECT ENGINEER: S BRUBAKER
REMARKS
USE CAPITAL LETTERS!
KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

T = AASHTO Tests

% OVERSIZE ARIZ 201 COARSE FACTOR: 610471 (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3					
2½					
2					
1½			100	100	0
1			100	95-100	
3/4	95	20	80		20
1/2	479	50	30	25-60	
3/8	172	18	12		88
#4	63	7	5		
#8	24	3	2	0-10	98
Total	195				

9550

WT PASS #4: 55 SPLIT: FINE SIEVE FACTOR: (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	
#8	99	1	1	0-5	99
#10	96	1	0		
#16				100	
#30				100	
#40					
#50				100	
#100				100	
#200					
-#200					
Total					
Elution stage					

Dry Weight

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100 = 7.05
NECESSARY FOR ALL FA & CA

Liquid Limit (LL) T 89
Plastic Limit (PL) T 90
Plasticity Index (PI) = LL - PL T 90
SPECS

Abrasion (A B C D) T 96
100 Revolutions
500 Revolutions

Absorption H_2O ARIZ 211 T 85
Specific Gravity SSD
Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np)
Total Sample Weight (W_a) (np)
Fractured Faces FF $\frac{W_f}{W_a} \times 100$ ARIZ 212

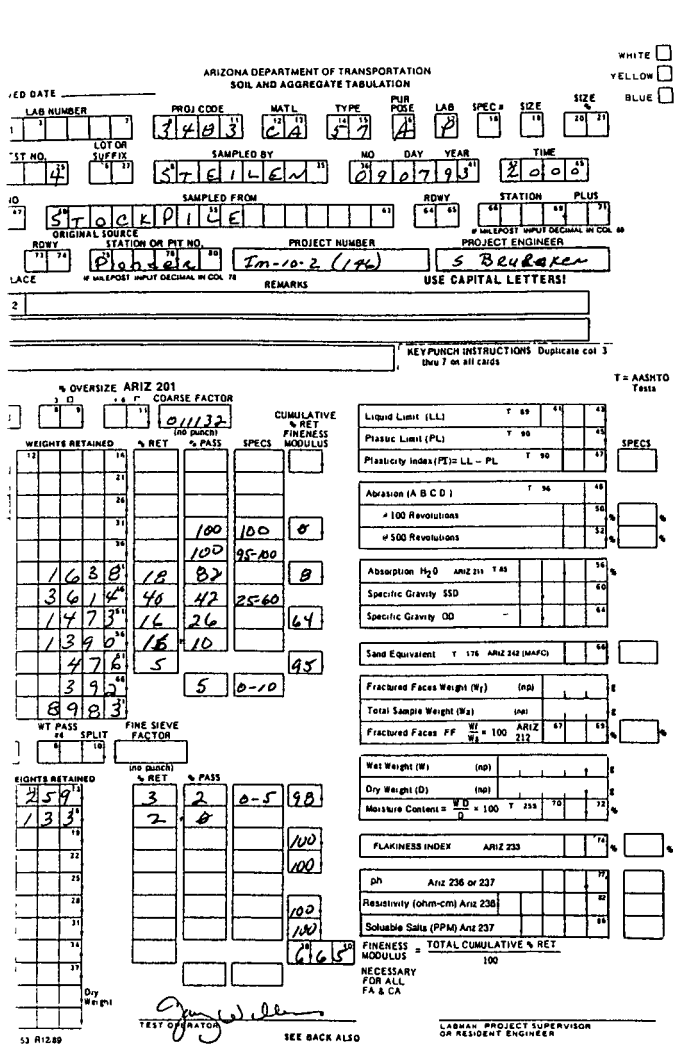
Wet Weight (W) (np)
Dry Weight (D) (np)
Moisture Content = $\frac{W-D}{D} \times 100$ T 255

FLAKINESS INDEX ARIZ 233

ph Ariz 236 or 237
Resistivity (ohm-cm) Ariz 236
Soluble Salts (PPM) Ariz 237

WHITE
YELLOW
BLUE

RECEIVED DATE
TEST OPERATOR AND DATE: HS & Rdy
SUPERVISOR AND DATE: Jon Wilkes 8-18-93
SEE BACK ALSO



ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

WHITE
YELLOW
BLUE

TEST DATE

LAB NUMBER: 3 4 0 1 3 | PROJ CODE: C A | MATL: S 7 | TYPE: A | PURPOSE: P | LAB | SPEC # | SIZE | SIZE %

TEST NO: 4 | LOT OR SUFFIX | SAMPLED BY: S T E I L E M | NO | DAY: 0 9 | YEAR: 9 5 | TIME: 2 0 0 0

SAMPLED FROM: S T O C K P I L E | RDWY | STATION | PLUS
ORIGINAL SOURCE

RDWY | STATION OR PIT NO: P o n d e r o s a | PROJECT NUMBER: I M - 1 0 - 2 (1 4 6) | PROJECT ENGINEER: S BRYBAKER
IF MILEPOST INPUT DECIMAL IN COL 78 | REMARKS | USE CAPITAL LETTERS!

LACE

2

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

T = AASHTO Tests

% OVERSIZE ARIZ 201 | COARSE FACTOR: 0 1 1 3 2 (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
			100	100	0
			100	95-100	
	1 6 3 8	18	82		8
	3 6 1 4	40	42	25-60	
	1 4 7 3	16	26		64
	1 3 9 0	16	10		
	4 7 6	5			95
	3 9 2		5	0-10	
	8 9 8 3				

WT PASS #6 | SPLIT | FINE SIEVE FACTOR (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	
#8	2 5 9	3	2	0-5	98
#10	1 3 5	2	0		
#16					100
#30					100
#40					
#50					100
#100					100
#200					
-#200					
Total					616
Elutriation					

Dry Weight

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100
NECESSARY FOR ALL FA & CA

Liquid Limit (LL) T 89
Plastic Limit (PL) T 90
Plasticity Index (PI) = LL – PL T 90

Abrasion (A B C D) T 96
100 Revolutions
500 Revolutions

Absorption H_2O ARIZ 211 T 85
Specific Gravity SSD
Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np)
Total Sample Weight (W_a) (np)
Fractured Faces FF = $\frac{W_f}{W_a} \times 100$ ARIZ 212

Wet Weight (W) (np)
Dry Weight (D) (np)
Moisture Content = $\frac{W-D}{D} \times 100$ T 255

FLAKINESS INDEX ARIZ 233

ph Ariz 236 or 237
Resistivity (ohm-cm) Ariz 236
Soluable Salts (PPM) Ariz 237

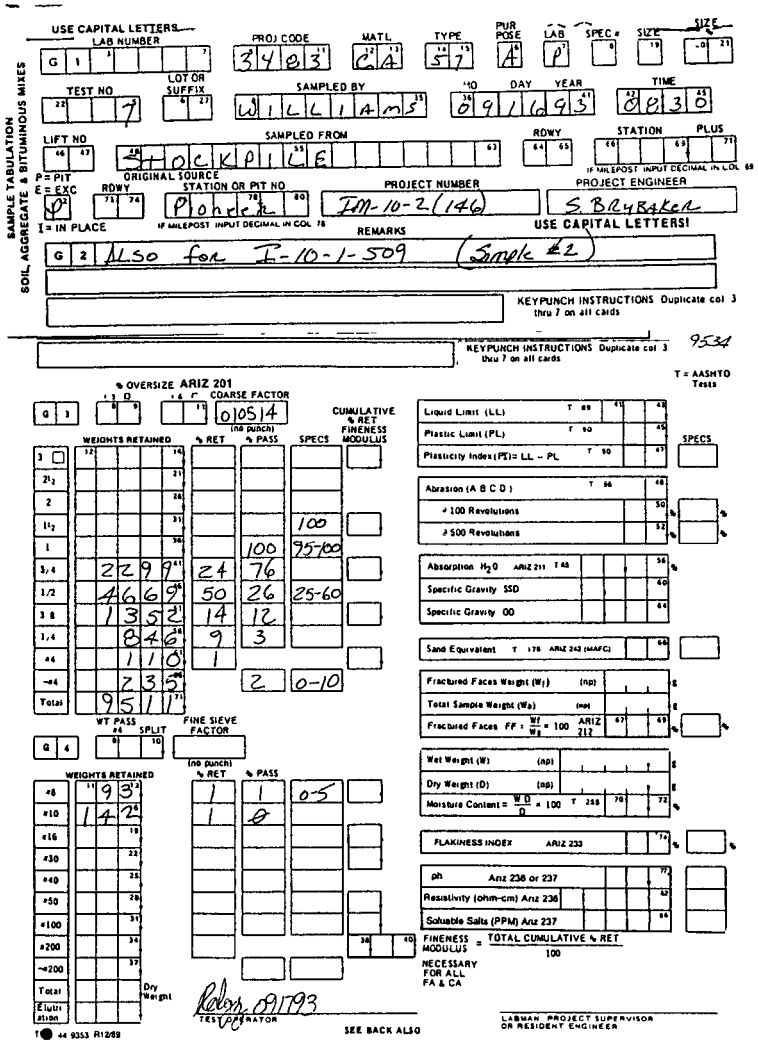
SPECS

TEST OPERATOR

SEE BACK ALSO

LABMAN, PROJECT SUPERVISOR OR RESIDENT ENGINEER

53 R12.89



SOIL, AGGREGATE & BITUMINOUS MIXES SAMPLE TABULATION

USE CAPITAL LETTERS

G 1 | LAB NUMBER | PROJ CODE: 3 4 0 1 3 | MATL: C A | TYPE: S 7 | PURPOSE: A | LAB: P | SPEC # | SIZE | SIZE

TEST NO: 7 | LOT OR SUFFIX | SAMPLED BY: W I L L I A M S | NO: 0 9 | DAY: 1 6 | YEAR: 9 5 | TIME: 0 8 3 0

LIFT NO | P = PIT, E = EXC, I = IN PLACE: P | SAMPLED FROM: S T O C K P I L E | RDWY | STATION | PLUS
ORIGINAL SOURCE | IF MILEPOST INPUT DECIMAL IN COL 69

RDWY | STATION OR PIT NO: P o n d e r o s a | PROJECT NUMBER: I M - 1 0 - 2 (1 4 6) | PROJECT ENGINEER: S BRYBAKER
IF MILEPOST INPUT DECIMAL IN COL 78 | REMARKS | USE CAPITAL LETTERS!

G 2 | ALSO for I-10-1-509 (Smple #2)

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

9534

T = AASHTO Tests

% OVERSIZE ARIZ 201 | COARSE FACTOR: 0 1 0 5 4 (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3					
2½					
2					
1½				100	
1			100	95-100	
¾	2 2 9	24	76		
½	4 6 6	50	26	25-60	
⅜	1 3 5	14	12		
¼	8 4	9	3		
#4	1 1	1			
-#4	2 3 5		2	0-10	
Total	9 5 1				

WT PASS #6 | SPLIT | FINE SIEVE FACTOR (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	
#8	1 9 3	1	1	0-5	
#10	1 4 2	1	0		
#16					
#30					
#40					
#50					
#100					
#200					
-#200					
Total					
Elutriation					

Dry Weight

FINENESS MODULUS = TOTAL CUMULATIVE % RET / 100
NECESSARY FOR ALL FA & CA

Liquid Limit (LL) T 89
Plastic Limit (PL) T 90
Plasticity Index (PI) = LL – PL T 90

Abrasion (A B C D) T 96
100 Revolutions
500 Revolutions

Absorption H_2O ARIZ 211 T 85
Specific Gravity SSD
Specific Gravity OD

Sand Equivalent T 176 ARIZ 242 (MAFC)

Fractured Faces Weight (W_f) (np)
Total Sample Weight (W_a) (np)
Fractured Faces FF = $\frac{W_f}{W_a} \times 100$ ARIZ 212

Wet Weight (W) (np)
Dry Weight (D) (np)
Moisture Content = $\frac{W-D}{D} \times 100$ T 255

FLAKINESS INDEX ARIZ 233

ph Ariz 236 or 237
Resistivity (ohm-cm) Ariz 236
Soluable Salts (PPM) Ariz 237

SPECS

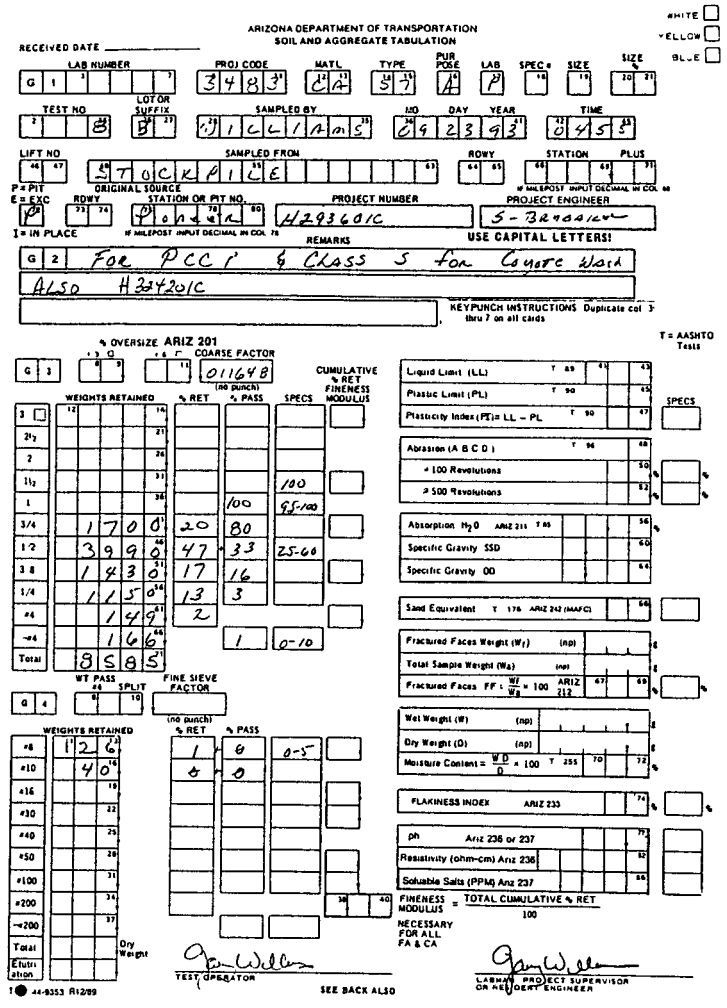
Robert 091793
TEST OPERATOR

SEE BACK ALSO

LABMAN, PROJECT SUPERVISOR OR RESIDENT ENGINEER

T 44 9353 R12/89

WHITE ☐
YELLOW ☐
BLUE ☐



ARIZONA DEPARTMENT OF TRANSPORTATION
SOIL AND AGGREGATE TABULATION

RECEIVED DATE _____

LAB NUMBER	PROJ CODE	MATL	TYPE	PUR POSE	LAB	SPEC #	SIZE	SIZE %
G 1	3483	CA	57	A	P			

TEST NO	LOT OR SUFFIX	SAMPLED BY	MO	DAY	YEAR	TIME
8	B	WILLIAMS	09	23	93	0455

LIFT NO	SAMPLED FROM	ROWY	STATION	PLUS
	STOCKPILE			

P = PIT
E = EXC
I = IN PLACE

ORIGINAL SOURCE: P
ROWY
STATION OR PIT NO.: Pioneer
IF MILEPOST INPUT DECIMAL IN COL 78
PROJECT NUMBER: H293601C
PROJECT ENGINEER: S-Brooke

USE CAPITAL LETTERS!

REMARKS

G 2 For PCCP & Class S for Coyote Wash
Also H324201C

KEYPUNCH INSTRUCTIONS Duplicate col 3 thru 7 on all cards

% OVERSIZE ARIZ 201

G 3 — COARSE FACTOR 011648 (no punch)

	WEIGHTS RETAINED	% RET	% PASS	SPECS	CUMULATIVE % RET FINENESS MODULUS
3					
2½					
2					
1½				100	
1			100	95-100	
3/4	1700	20	80		
1/2	3990	47	33	25-60	
3/8	1430	17	16		
1/4	1150	13	3		
#4	149	2			
-#4	166		1	0-10	
Total	8585				

WT PASS #4 SPLIT — FINE SIEVE FACTOR (no punch)

G 4

	WEIGHTS RETAINED	% RET	% PASS	SPECS	
#8	126	1	0	0-5	
#10	40	0	0		
#16					
#30					
#40					
#50					
#100					
#200					
-#200					
Total					
Elutriation					

Dry Weight

		SPECS
Liquid Limit (LL)	T 89	
Plastic Limit (PL)	T 90	
Plasticity Index (PI) = LL − PL	T 90	
Abrasion (A B C D)	T 96	
≤ 100 Revolutions		%
≥ 500 Revolutions		%
Absorption H_2O	ARIZ 211 T 85	%
Specific Gravity SSD		
Specific Gravity OD		
Sand Equivalent	T 176 ARIZ 242 (MAFC)	
Fractured Faces Weight (W_f)	(np)	g
Total Sample Weight (W_s)	(np)	g
Fractured Faces FF = $\frac{W_f}{W_s}$ × 100	ARIZ 212	%
Wet Weight (W)	(np)	g
Dry Weight (D)	(np)	g
Moisture Content = $\frac{W-D}{D}$ × 100	T 255	%
FLAKINESS INDEX	ARIZ 233	%
ph	Ariz 236 or 237	
Resistivity (ohm-cm)	Ariz 236	
Soluble Salts (PPM)	Ariz 237	

T = AASHTO Tests

FINENESS MODULUS = $\frac{\text{TOTAL CUMULATIVE \% RET}}{100}$
NECESSARY FOR ALL FA & CA

TEST OPERATOR: Gary Williams

SEE BACK ALSO

LABMAN PROJECT SUPERVISOR OR RESIDENT ENGINEER: Gary Williams

44-9353 R12/89

MANUFACTURERS OF
ARIZONA CEMENTS

Rillito, Arizona

C E P T I F I C A T E O F T E S T

Sep 22, 1993

PORTLAND CEMENT TYPE I/II Low Alkali

A S T M Designation C 150

Bill of Lading no

ANALYSIS		PHYSICAL DATA
		Lot number 26531
		Fineness, Blaine
on dioxide, SiO2	21 14 %	Specific surface (sq m /kg) 391
num oxide, Al2O3	4 04 %	Soundness
oxide, Fe2O3	2 91 %	Autoclave expansion, %
m oxide, CaO	63 07 %	
ium oxide, MgO	4 76 %	Compressive Strength, C109, P S I
r trioxide, SO3	2 73 %	
n ignition	1 10 %	
ble residue	53 %	
es (% Na2O + 0 658% K2O)	41 %	False Set
L COMPOSITION		Vicat Time of Setting 120 Mins
cium silicate,3CaO SiO2	57 %	Water 24 5 %
cium aluminate,3CaO Al2O3	6 %	

Apparatus and methods in use in this laboratory have been checked b
Reference Laboratory of U S Bureau of Standards Major oxides are
analyzed by X-Ray Fluorescence Spectrometry

Wils J Phillips

FOR STEVEN A REGIS, QC Superintendent

ARIZONA PORTLAND CEMENT COMPANY
SIGNATURE OF CONSIGNOR

A108251

PERMANENT POST OFFICE ADDRESS OF SHIPPER P O BOX 338 • RILLITO AZ 85248

I HEREBY CERTIFY THAT THIS CAR OR TRUCK HAS BEEN LOADED TO FULL VISIBLE CAPACITY OR TO MAXIMUM LEGAL GROSS WEIGHT WHICHEVER IS APPLICABLE

CONSIGNEE NO. AND NAME		CUSTOMER'S P.O. NUMBER		
73474	TANNER CONSTRUCTION	11411 JOB 2974	[illegible]	1200

TO ADDRESS
ADOT IH-10-2(146),I-10-1-5091-10 TO PALO VERDE EXIT, NEAR TOPOPAH, AZ

DELIVERY INSTRUCTIONS

12 NOON DELIVERY ***SEND MILL CERTS***

PLANT	TICKET NO	DATE SHIPPED	ORDER NO	TEMP		PROD CO	PRODUCT DESCRIPTION	QUANTITY	
	30960	24-SEP-93	28192	136	26531			39 8	GROSS TON
DISPATCH NO	TRUCK TYPE	FREIGHT	TIME IN	TIME OUT				13.25	TARE
221-383		PREPAID	08:50	08:53		051	PORTLAND L/A	26.38	NET

TRUCK LICENSE | TRAILER LICENSE | TRAILER LICENSE

CARRIER: [illegible]

REC'D FOR CARRIER BY: [illegible] 5000 DATE 9-24-93

REC'D FOR CONSIGNEE BY: [illegible] DATE

RECEIVED FROM ARIZONA PORTLAND CEMENT CO THE MATERIAL DESCRIBED ABOVE IN GOOD CONDITION EXCEPT AS NOTED
EXPLANATION OF TERMS AND ADDITIONAL PROVISIONS INCLUDING CERTIFICATE OF COMPLIANCE AND PRODUCT WARNING ON REVERSE SIDE HEREOF STEVEN A. REGIS MCH
PLANT CHEMIST

DO NOT DIVERT WITHOUT CONSENT OF SHIPPER CALL DISPATCHER COLLECT (602) 622-3501

INSPECTOR'S COPY

Ferric oxide, Fe2O3	2 91 %	Autoclave expansion, %
Calcium oxide, CaO	63 07 %	
Magnesium oxide, MgO	4 76 %	Compressive Strength, C109, P S I
Sulphur trioxide, SO3	2 73 %	
Loss on ignition	1 10 %	
Insoluble residue	53 %	
Alkalies (% Na2O + 0 658% K2O)	41 %	False Set
POTENTIAL COMPOSITION		Vicat Time of Setting 120 Mins
Tricalcium silicate,3CaO SiO2	57 %	Water 24 5 %
Tricalcium aluminate,3CaO Al2O3	6 %	

Remarks Apparatus and methods in use in this laboratory have been checked by
Reference Laboratory of U S Bureau of Standards Major oxides are
analyzed by X-Ray Fluorescence Spectrometry

Wils J Phillips

FOR STEVEN A REGIS, QC Superintendent

ARIZONA

HARDGARD INC

HIGH PERFORMANCE PRODUCTS

August 24, 1993

anner Construction
0 Box 52151
'hoenix, AZ 85072-2151

E Load Transfer Dowel Assemblies
Job #2975
Project #IM-10-2(146)
Ehrenberg-Phoenix Highway (Tonopah-SR 85)
B/L #10551

CHECKLIST

D... 9-9-93
✓ ...
✓ ...
✓ ...
✓ Quantity of Material
✓ Identification
✓ Compliance Statement
✓ Orig. Sign & Notary
TE Results (Cert of Analysis)
Date Materials Checked
Against Cert 9-15-93
Inspector: [signature]
Approved By: [signature]

CERTIFICATE OF COMPLIANCE

Arizona Hardgard, Inc , hereby certifies that the Load Transfer Dowel ssemblies,

300 Units Item #4010310A 8" CD Baskets W/11 ea 1-1/2"x18"
Epoxy Coated Dowels Heat # 93I-4595, 93I-4599, 93I-4562
93I-4588, 93I-4568, 93I-4592, 93I-4574, 93I-4565

anufactured by The W G Block Company, 600 E 4th Street, Davenport, Iowa, 2808, comply with the above mentioned plans and specifications

Sincerely,
Arizona Hardgard, Inc

[signature]

Bruce A Cason
President

AC/gac

ounty of Maricopa
tate of Arizona

OFFICIAL SEAL
GAYLE A CASON
NOTARY PUBLIC - STATE OF AZ
MARICOPA COUNTY
MY COMM EXPIRES JULY 1994

he above instrument was acknowledged before me this 24th day of August, 1993 y Bruce A Cason

y Commission Expires July 11, 1994

[signature]
Notary Public

member
ASCC
American Society for Concrete Construction

3647
897-6703

2034 E Harvard Dr
Tempe AZ 85283

Buckeye

Tanner Construction

A Division of The Tanner Companies
068050 Class A 068051 Class B-01

3888 E. Broadway
P.O. Box 52151
Phoenix AZ 85072 2151
602/437 7878

T R A N S M I T T A L

THE TANNER COMPANIES
P O BOX 52151
PHOENIX, ARIZONA 85072-2151
PHONE. 437-7878

DATE 09/03/93
TANNER JOB NO 2974-332
PROJECT IM-10-2(146)
I-10-1(509) TONOPAH SR85

TO. ARIZONA DEPARTMENT OF TRANSPORTATION
P O BOX 758
BUCKEYE, ARIZONA 85326
ATTN SIMEON BRUBAKER

Gentlemen WE ARE SENDING YOU X ATTACHED Certified Payroll
___ Shop Drawings ___ Prints ___ Plans ___ Samples
___ Copy of Letter ___ C O X Certifications

COPIES	DATE	DESCRIPTION
3	8-24-93	ARIZONA HARDGARD "W G BLOCK COMPANY" 3300 LF EPOXY COATED DOWELS, 18 BUNDLES W/16 UNITS & 1 BUNDLE W/12 UNITS FOR 11" PAVING 93I-4595,93I-4599,93I-4562, 93I-4588, 93I-4568, 93I-4574, 93I-4565

THESE ARE TRANSMITTED as checked below.

X For approval ___ Approved as subm. ___ Resub ___ copies
X For your use ___ Approved as noted ___ Return copies
X As requested ___ Ret. for correction
___ For review and comment

REMARKS. Submitting three (3) ORIGINAL Certifications (Have been informed that now only one (1) is required). The Certification Format has been reviewed and approved by Mary

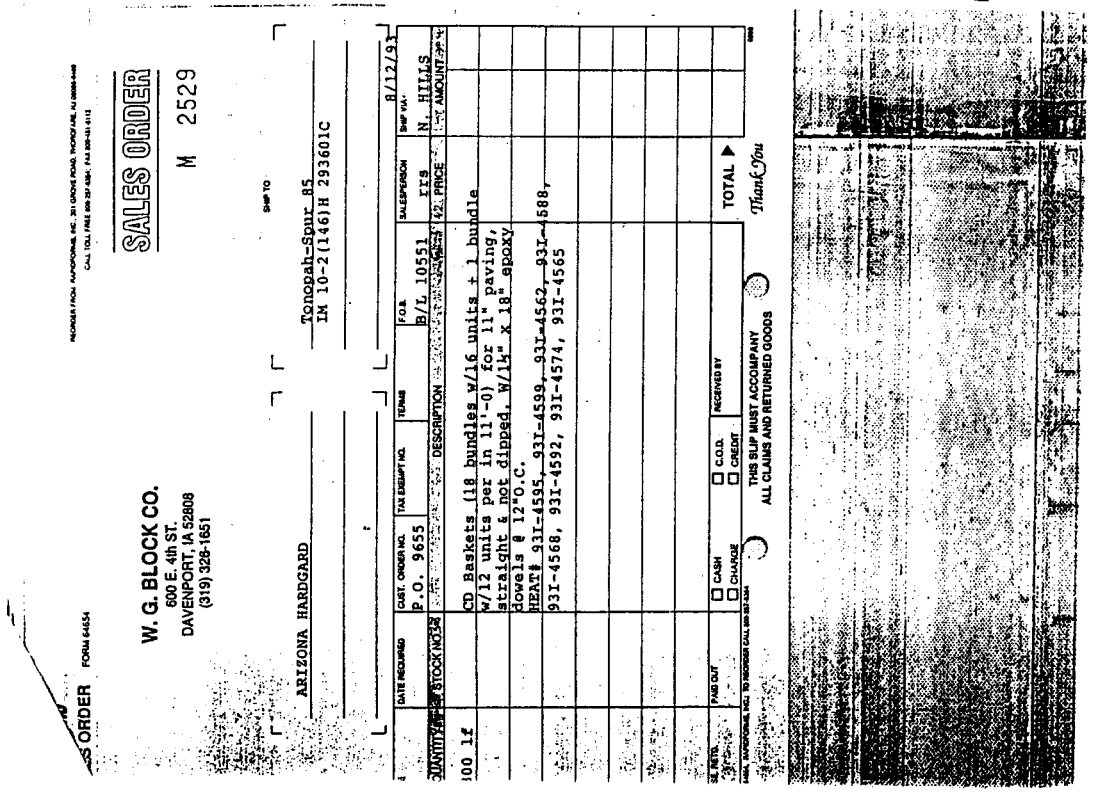
Signed [signature]
TANNER CONSTRUCTION
Daniel G Cook,
Project Supervisor

RECEIVED
SEP - 7 1993
ORG: 4344

Copy To. FILE, Log, S Pearl

apac

Committed to Excellence



ORDER FORM 64654

W. G. BLOCK CO.
600 E. 4th ST.
DAVENPORT, IA 52808
(319) 326-1651

ARIZONA HARDGARD

SALES ORDER

M 2529

SHIP TO

Tonopah-Spur 85
IM 10-2(146)H 293601C

QUANTITY	DATE REQUIRED	CUST. ORDER NO.	TAX EXEMPT NO.	TERMS	F.O.B.	SALESPERSON	SHIP VIA
		P.O. 9655			B/L 10551	rrs	N. HILLS

QUANTITY	STOCK NO.	DESCRIPTION	PRICE	AMOUNT
100 lf		CD Baskets (18 bundles w/16 units + 1 bundle w/12 units per in 11'-0) for 11" paving, straight & not dipped, W/1½" x 18" epoxy dowels @ 12"O.C. HEAT# 93I-4595, 93I-4599, 93I-4562, 93I-4588, 93I-4568, 93I-4592, 93I-4574, 93I-4565		

TOTAL ▶

PAID OUT ☐ CASH ☐ CHARGE ☐ C.O.D. ☐ CREDIT RECEIVED BY

THIS SLIP MUST ACCOMPANY ALL CLAIMS AND RETURNED GOODS

Thank You

CERTIFIED MILL TEST RE

LD : W G BLOCK
O : PO BOX 3010
DAVENPORT IA 52808

W G BLOCK
PO BOX 3010
DAVENPORT IA 52808

BIRMINGHAM STEEL CORPORATION
RR 1, BOX 164
BOURBONNAIS IL 60914

DATE: 06/03/93
B.L. NO.: 55- 62312
LOAD NO.: 55- 11220

HEAT NO.*	DESCRIPTION	PHYSICAL TESTS: YIELD P.S.I.	TENSILE P.S.I.	ELONG	Bend	WT% / DEF	CHEMICAL TESTS: C / Ni	Mn / Cr	P / Mo	S / V	Si / Cb	Cu	C.E.
3I4592	KANKAKEE, IL STEEL DIV 1-1/2" Rd 30' 2" (Gr40/80) ASTM A615-90/40 AASHTO M227/80	55,400	86,600	22.0%	OK	%	.31 .12	.810 .09	.008 .040	.033	.22	.28	%
3I4597	KANKAKEE, IL STEEL DIV 1-1/2" Rd 30' 2" (Gr40/80) ASTM A615-90/40 AASHTO M227/80	51,100	80,600	24.0%	OK	%	.30 .10	.780 .07	.008 .040	.038	.18	.21	%
3I4599	KANKAKEE, IL STEEL DIV 1-1/2" Rd 30' 2" (Gr40/80) ASTM A615-90/40 AASHTO M227/80	52,500	82,100	25.0%	OK	%	.29 .09	.760 .09	.012 .040	.042	.19	.28	%

3M Electrical Products Division
1700 North Minnesota Street
New Ulm, Minnesota 56073-1199
507/354 8271

3M

s is to certify that the lot(s) of SCOTCHKOTE Brand 215 Fusion
ded Epoxy Coating listed below is (are) chemically the same
erial that was tested and approved by the Vally Forge
oratories of Devon, PA. SCOTCHKOTE 215 also meets ASTM A 775/A
M-90, ASTM D 3963-86, ASTM A 884-88, AASHTO M284-86 and
HTO M254-77.

Number	Date of Manufacture	Batch Size
425-60	AUG 2 5 1992	1500
425-61	AUG 2 5 1992	1500

nesota Mining and Manufacturing Company
med K. M. Brown
le O.A. SUPERVISOR
e AUG 2 5 1992

PIPE COATING, INC.
KENNEDY AVENUE
), BOX 127
ERERVILLE, INDIANA 46375

Job# _____ Sheet# _____
Contract# _____ Date 5-12-93
Design# _____ County _____

CERTIFICATION OF EPOXY COATED DOWEL BAR

te of Missouri Contractor _____
tomer W G BLOCK Order # 1600

certify that the following described bar material has been cleaned, coated, and inspected
accordance with and meets the specification and requirements of the _____
ARTMENT OF TRANSPORTATION AND _____. Above bar material approved by
TE D.O.T. _____ Per Report # _____
the bar material and the epoxy resin us

AR _____ DOWEL BAR ✓ OTHER MET.

Post it™ brand fax transmittal memo 7671 | # of pages ▸

To W G BLOCK	From MWPC
Co RHANDA	Co PETE
Dept	Phone # (219) 322 4564
Fax # (319) 326 4349	Fax # (219) 322 2761

BAR MATERIAL

BAR MANUFACTURER	HEAT NUMBER	FOOTAGE	SIZE	PCS	WEIGHT #	TYPE 3M	BATCH #
	93I4591	7102 8		252	45678		
	93I4591	1267 1		42	7613	SK215	2H27-54
	93I4592	6335 7		210	38065		2H25-57
	93I4569	1267 1		42	7613		2H25 58
	93I4568	6335 7		210	38065		2H25 61
	93I4593	1267 1		42	7613		2H25-60
	93I4590	1267 1		42	7613		2H21 55
	93I4594	5068 5		168	30452		
	93I4570	7602 8		252	45678		
	93I4572	7542 5		250	45315		
			TOTAL	1510	273,705		

s is also to certify that the attached mill certifications are applicable to the material
nized in this shipment. Coated samples are taken from coating run.

CKNESS ✓ HOLIDAY ✓ BEND ✓
se tests were made at time of coating and passed.

steel furnished is of domestic origin and is in compliance with the project "Buy America"
vision.

Robert Theisen VP
ERT THEISEN, VICE PRESIDENT

above, Robert Theisen, appeared before me
Lake County, State of Indiana, on this

Contractor _____
File ✓
State _____
Inspector _____
Customer ✓

3M Electrical Products Division
1700 North Minnesota Street
PO Box 95
New Ulm, MN 56073-0095
507/354 8271

3M

This is to certify that the lot(s) of SCOTCHKOTE Brand 413 Fusion Bonded Epoxy Coating listed below is (are) chemically the same material that was tested by the Valley Forge Laboratories of Devon, PA. SCOTCHKOTE 413 meets ASTM A 775/A 775M-92, ASTM D 3963-86, ASTM A 884-918, AASHTO M284-86 and AASHTO M254-77

Lot Number	Date of Manufacture	Batch Size
3A30-57	JAN 30 1993	1500
3A30-62	JAN 30 1993	1500

nesota Mining and Manufacturing Company

ned K. H. Sagmaen

e Q.A. Supervisor

JAN 30 1993

2A 3/2

B-56

ION REPORT TF #1 DAY Saturday DATE 6-1-93

stomer WG Block PO # 1599 Coating SK-215 Mils 8 min

eman Rusty Holder Oven Preheat 425-450 ° Pos Cure ° Part Temp

erator Hiram Rosado MWPC# 31 Part Temp 450 ° Part Temp

pector Steve ERN Cure time to water 32-37 SEC. Rebar Heat # 937456L 937-4596 937-4573 937-4582 937-4522 937-4564

cleaned to wear white YES ☑ W/B ☑ (W/B Wheelabrate)

liday tested individual bar YES ☐ S/B ☐ (S/B Sand Blast)

ckness Guage Calibration 10 mil A/P 2 Mils (A/P Anchor Pattern)

day's Reading 10 mil

1½"x30"x" Dowel GP 4/10

JOINT	1	2	3	4	5	6	7	8	9	10	Bend	Bend	Bend	Bend	Remarks
2	11	10	9	10											
8	10	10	9	10											
20	10	8.5	10	11											
32	10	11	8	10											
43	10	11	9	9.5							ok		ok		
54	11	11	9	10											
64	9.5	9	9.5	10											
71	9	9	8	9.5											
79	9	10	9	9											
89	9	9	10	8.5											
99	10	10	8	10											
109	8.5	9	9.5	8											
120	9	10	10	10											
127	8.5	9	8	9											
135	9	8.5	8	9											
142	8.5	8.5	8.5	10											
154	9	8.5	8	9											
165	8.5	9	8.5	10											
176	10	9	9	10											
188	8.5	8	8.5	9.5											
209	9	9	8.5	10							ok		ok		
220	9	9	9	10											
231	10	10	9	10											
243	9	9	8.5	9.5											
254	9	8.5	9	8.5											
266	9	9	8.5	9.5											
275	9	9.5	9	10											
288	9	8.5	8.5	9.5											
299	9.5	10	9.5	10											
308	8.5	9.5	9	9.5											
317	8.5	8	8.5	9											
330	9.5	9.5	9	9											
340	9	9	9.5	9											
349	9	8.5	8.5	9.5											
360	9	9	8.5	9											
373	10	8.5	9	9.5							ok		ok		
385	9	9	8.5	9.5											
397	9	9.5	8.5	9											
409	9.5	9	9.5	10											
422	9	8.5	9	9.5											

JOINT	1	2	3	4	5	6	7	8	9	10	Bend	Bend	Bend	Bend	Remarks
419	9	9.5	8.5	9											
9 30 433	9	9.5	8.5	9.5											
9 40 438	9	9	9	9.5											
449	10	9	8.5	9											
460	8.5	8.5	9	9.5											
10 00 472	9	9	9.5	10											
484	8.5	8.5	9	8.5											
497	8.5	9	9	10											
509	9	9.5	9	9.5											
519	9	9	8	10											
530	8.5	9	9	10											
10 30 543	9	9	9.5	10											
555	a	10	10	10											
566	9	8.5	8.5	10											
578	a	10	9	10											
589	9.5	9	9	10											
599	9	8.5	9	9.5											
611	8.5	9	8.5	9.5											
11 00 623	9	9	8.5	10											
630	8.5	10	10	8.5											
642	9	9	8.5	9.5											
655	10	9.5	9	9											
665	9	10	9.5	9.5											
678	9	9.5	9	10											
689	9.5	9	9	9.5											
11 00 699	9	9	8.5	9.5											
711	9	8.5	9	10											
721	8.5	9	8.5	9.5											
732	9	8.5	9	10											
744	8.5	8.5	8.5	8											

TOTAL 750 pcs

lar Manufacturer 3m (SK-215)

Lot# 2N28 5152

ADOT Materials Testing Charges Date 9-13-93
Document # 0264293 Actv MP26
Projects H2936 01C

Test No	Quan	Test No	Quan	Test No	Quan
819	1	14.50			

Total Charge 14.50

ENTERED IN TRACS 44 9324 5/93
9-22-93 jm

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS SECTION

White ☒ Yellow ☐ Blue ☐

1600 WHITE

Received 9-13-93 Test Commenced 9-13-93 Material Pigmented Cure
Identification Sampled 9-13-93 Lab. No 93-35559
Submitted by BRUBAKER Sampled by ROBERTS Project No. H2936 01C
Source of Sample STOCK @ W R. MEADOWS Quantity 2 Drums
Location of Supply BORDER
Project Name EHRENBERG - PHX. Hwy Contractor TANNER
Specifications Governing
Remarks LOT # 3AF63

IM 10-2(146)

Test Results

NON VOLATILES (110°C) : 24.3%
NON-VOLATILES (450°C) : 3.7%
NON-VOLATILE Vehicle : 21.4%

ACCEPTABLE AS COMPARED TO THE WATER RETENTION TEST CONDUCTED ON JAN. 25, 1993 LAB. NO. 93-35041

Donald K. Crum
SEP 15 1993
MATERIALS TESTING ENGINEER

Testing Charges Date 9-22-93
Document # 0264593 Actv MC 25
Projects H2936 01C
H3242 01C

Test No	Quan	Test No	Quan	Test No	Quan
665A	1	7.50			

Total Charge 7.50

ENTERED IN TRACS 9-22-93

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS SECTION
CHEMISTRY LAB TEST CARD

BPF
White ☒ Yellow ☐ Blue ☐

Received 9-22-93 Test Completed 9-22-93 Material AIR ENTRAINING
Identification 93-1 Sampled 8-30-93 Lab. No. 93-27488
Submitted by BRUBAKER Sampled by CONTRACTOR Project No. H2936 01C
Source of Sample STOCK ON HAND Quantity
Location of Supply WR GRACE
Project Name EHRENBERG - PHOENIX HWY Contractor TANNER
Specifications Governing STANDARD SPECIFICATION SECTION 1006
Lot No. C 21104 / 04E PRESHIPMENT LAB NO 93-27459
Remarks DARAVAIR

Tests	Test Results	Specifications
TOTAL SOLIDS	16.5 %	
VINSOL RESIN	14.5 %	

RECEIVED
OCT - 4 1993
ORG: 4344

Donald K Crum
SEP 27 1993
MATERIALS TESTING ENGINEER

ADOT Materials Testing Charges Date 9-15-93
Document # 0264711 Activ MP31
Projects H3236 01C, H3242 01C

Test No	Quan	Test No	Quan	Test No	Quan
~~[illegible]~~					
612	1	22.25			
613	1	36.50			
~~663A~~	1	7.50			

Total Charge 66.25

44 9 1/4 5-93

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS SECTION

White ☒ 81
Yellow ☐
Blue ☐

9-22-93 jm

Received 9-15-93 Test Commenced 9-15-93 Material 1600 WHITE CURING COMPOUND

Identification Sampled 9-15-93 Lab No 93-35565

Submitted by S. BRUBAKER Sampled by YAZZIE Project No H3236 01C H3242 01C

Source of Sample STOCK Quantity 5,500 GALLONS BULK

Location of Supply W. R. MEADOWS

Project Name ENRENBERG - PHOENIX HWY. Contractor TANNER

Specifications Governing IM-10-1 (146)

Remarks LOT # 3AK96 IM-10-1 (509)

Test Results

Nonvolatiles (110°C): 37.5%
Nonvolatiles (450°C): 3.2%
Nonvolatile Vehicle: 35.5%

LAB No. 93-35565

CONDUCTED ON Sept 15, 1993

THE WATER RETENTION TEST

ACCEPTABLE AS COMPARED TO

Donald K. Crum

SEP 16 1993

MATERIALS TESTING ENGINEER

Buckeye

CERTIFICATE OF COMPLIANCE

ECT IM-10-1(146) & IM-10-1-509, EHRENBERG/PHOENIX HIGHWAY, TONOPAH/STATE RTE. 85

LIER NINA CONSTRUCTION SUPPLY - TEMPE, AZ

RACTOR TANNER COMPANY

?IAL TYPE SEALTIGHT 1600 WHITE

IUMBER 3AK96

?ITY REPRESENTED IN LOT 3,500 GALLON BULK

?CABLE SPECIFICATION AASHTO M 148, TYPE 2, CLASS A

This will certify that all material transported to the above oned project and identified by the above lot number complies all A D O T requirements for this type of material on the e captioned project.

W. R. MEADOWS OF AZ, INC

GREG V. SINGLETON, ASST. GEN. MGR.

of Arizona

/ of Maricopa

to before me this 15 day

eptember, 19 93.

/ PUBLIC

mmission expires April 18,

CHECKLIST	
Date Cert Rec'd	9-22-93
✓ Project No	
✓ Contractor	
✓ Kind of Material	
✓ Quantity of Material	
✓ Identification	
✓ Compliance Statement	
✓ Orig Sign & Notary	
TE Results (Cert of Analysis)	
Data Matrix Checked Against Cert	9-24-93
Inspector	
Approved By	

SEAL

Buckeye

CERTIFICATE OF COMPLIANCE

PROJECT I10-1-509 EHRENBERG/PHOENIX HIGHWAY, OLD CAMP WASH/COYOTE WASH

SUPPLIER NINA CONSTRUCTION SUPPLY - TEMPE, AZ

CONTRACTOR TANNER CO.

MATERIAL TYPE SEALTIGHT 1300 CLEAR

LOT NUMBER 3AJ92

QUANTITY REPRESENTED IN LOT (3) 55-GALLON DRUMS

APPLICABLE SPECIFICATION AASHTO M 148, TYPE 1, CLASS A

This will certify that all material transported to the above captioned project and identified by the above lot number complies with all A.D.O.T. requirements for this type of material on the above captioned project

W. R MEADOWS OF AZ, INC

GREG V. SINGLETON, ASST. GEN. MGR

State of Arizona

SENT WITH DRIVER

County of Maricopa

Sworn to before me this 16 day

of September, 1993

NOTARY PUBLIC

My commission expires April 18, 1994

CHECKLIST	
Date C . Rec'd	9/22/93
✓ Project No	
✓ Contractor	
✓ Kind of Material	
✓ Quantity of Material	
✓ Identification	
✓ Compliance Statement	
✓ Orig Sign & Notary	
TE Results (Cert. of Analysis)	
Data Matrix Checked Against Cert	9/22/93
Inspector	
Approved By	

SEAL

ADOT Materials Testing Charges Date 9-22-93
Document # 0264588 Actv MC 25
Projects H293601C
H324201C
Test No. Quan. Test No. Quan. Test No. Quan.
665A 1 750
ENTERED IN TRACS 9-28-93
Total Charge 750

44-3940 8/91

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS SECTION
CHEMISTRY LAB TEST CARD

White ☒ Yellow ☐ Blue ☐ BPF

Received 9-22-93 Test Completed 9-23-93 Material WATER REDUCER
Identification 93-1 Sampled 8-30-93 Lab. No. 93-27489
Submitted by BRUBAKER Sampled by CONTRACTOR Project No. H293601C
Source of Sample STOCK ON HAND Quantity
Location of Supply WR GRACE
Project Name EHRENBURG-PHOENIX HWY Contractor TANNER
Specifications Governing STANDARD SPECIFICATION SECTION 1006
Lot No. C21322/07E
Remarks WRDA-82

Tests	Test Results	Specifications
CHLORIDE	0.1%	0.5% MAX

RECEIVED
OCT - 4 1993 SM

Donald K. Crum
SEP 27 1993
MATERIALS TESTING ENGINEER

GRACE

Grace Construction Products
W R Grace & Co Conn 9-9-93
5624 N 54th Avenue
Glendale AZ 85301
(602) 939-9461

CHECKLIST
✓ Test of Material
✓ Quantity of Material
✓ Identification
✓ Compliance Statement
✓ Orig Sign & Notary
TF Results (Cert. of Analysis)
Data Materials Checked
Against Cert. 9-15-93
Inspector: [signature]
Approved By: [signature]

August 23, 1993

TANNER CONSTRUCTION
3888 E Broadway
P O. Box 52151
Phoenix, AZ 85072-2151

ADOT IM-10-2(146) & I-10-1-509
EHRENBERG-PHOENIX HIGHWAY
(TONOPAH-SR 85)

Tanner Job: 2974-299
Delivered: 08/19/93
Quantity: 3394 gallons
Lot #: C21322/07E

Gentlemen:

This is to certify that WRDA-82, a water-reducing admixture supplied by the Construction Products Division, W R. Grace & Co., is formulated to meet the requirements of Specifications for Chemical Admixtures for Concrete, ASTM Designation C-494 as a Type A admixture.

No chlorides or halogens are added to WRDA-82 as functional ingredients during manufacture.

The foregoing is in addition to and not in substitution for our standard conditions of sale as printed on the reverse side hereof.

Charles E. Barwood
Charles E. Barwood
Branch Manager
Authorized Signature

CEB:jll

State of Arizona)
County of Maricopa)

Sworn and subscribed to before me the undersigned this 23rd day of August, A.D. 1993

Janne S. Lopez
Notary Public

My Commission Expires Mar 10, 1994

We hope the information given here will be helpful. It is based on our best knowledge and we believe it to be true and accurate. Please read all statements, recommendations or suggestions herein in conjunction with our conditions of sale which apply to all goods supplied by us. We assume no responsibility for the use of these statements, recommendations, or suggestions, nor do we intend them as a recommendation for any use which would infringe any patent or copyright.

ADOT Materials Testing Charges Date 9-22-93

Document # 0264569 Acty MC 25

Projects H293601C H324201C

Test No.	Quan	Test No.	Quan	Test No.	Quan
665A1	7.50				

Total Charge 7.50

ENTERED IN TRACS 9-28-93

44-3940 8/91

ARIZONA DEPARTMENT OF TRANSPORTATION
MATERIALS SECTION
CHEMISTRY LAB TEST CARD

White ☒ Yellow ☐ Blue ☐

Received 9-22-93 Test Completed 9-22-93 Material AIR ENTRAINING

Identification 93-1 Sampled 8-30-93 Lab. No. 93-27488

Submitted by BRUBAKER Sampled by CONTRACTOR Project No. H293601C

Source of Sample STOCK ON HAND Quantity

Location of Sample WR GRACE

Project Name EHRENBERG-PHOENIX HWY Contractor TANNER

Specifications Governing STANDARD SPECIFICATION SECTION 1006

Acct No. C21104/04E PRESHIPMENT LAB NO 93-27459

Remarks DARAVAIR

Tests	Test Results	Specifications
TOTAL SOLIDS	16.5 %	
VINSOL RESIN	14.5 %	

RECEIVED
OCT - 4 1993
ORG: 4344

Geo H K Grimm
SEP 27 1993
MATERIALS TESTING ENGINEER

GRACE

Grace Construction Products

W R Grace & Co Conn
5624 N 54th Avenue
Glendale, AZ 85301
(602) 939-9461

9-9-93

August 23, 1993

TANNER CONSTRUCTION
3888 E Broadway
P.O. Box 52151
Phoenix, AZ 85072-2151

ADOT IM-10-2(146) & I-10-1-509
EHRENBERG-PHOENIX HIGHWAY
(TONOPAH-SR 85)

Tanner Job: 2974-299
Delivered: 08/19/93 #50488
Quantity: 1003 gallons
Lot #: C21104/04E

TE Results (Cert. of Analysis)
Date Materials Checked
Against Cert. 9-15-93
Inspector: [signature]
Approved By: [signature]

Gentlemen:

This is to certify that DARAVAIR, an air-entraining admixture supplied by the Construction Products Division, W.R. Grace & Co., is formulated to comply with the requirements of Specifications for Air-Entraining Admixtures for Concrete, ASTM Designation C-260 and AASHTO M-154.

DARAVAIR contains no calcium chloride added as a functional component during the manufacturing process.

The foregoing is in addition to and not in substitution for our standard conditions of sale as printed on the reverse side hereof.

Charles E. Barwood
Charles E. Barwood
Branch Manager
Authorized Signature

CEB:jil

State of Arizona)
County of Maricopa)

Sworn and subscribed to before me the undersigned, this 23rd day of August, A.D. 1993.

My Commission Expires Mar 19, 1994

Janne [signature]
Notary Public

We hope the information given here will be helpful. It is based on our best knowledge and we believe it to be true and accurate. Please read all statements, recommendations or suggestions herein in conjunction with our conditions of sale which apply to all goods supplied by us. We assume no responsibility for the use of these statements, recommendations, or suggestions, nor do we intend them as a recommendation for any use which would infringe any patent or copyright.

BILL OF LADING — SHORT FORM — ORIGINAL — Not Negotiable

subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading

...

PHOENIX CEMENT CO —

STATE OF ARIZONA
WEIGHTS AND MEASURES DIVISION
DEPT OF ADMINISTRATION
WEIGHMASTER'S CERTIFICATE OF WEIGHT AND MEASURE

THIS IS TO CERTIFY that the following described merchandise was weighed counted or measured by a public or deputy weigh master and when properly signed and dated shall be prima facie evidence of the accuracy of the weight shown as prescribed by the Arizona Revised Statutes Title 41 Chapter 15

Receipt & Record

SHIPPED FROM

CONSIGNEE Tanner Co Tonapa

SHIPPED C CLARKDALE ARIZONA
P PHOENIX, ARIZONA
J CHOLLA POWER PLANT ARIZONA
M MESA, ARIZONA

3989 9/21/93 11:34 4/31

CARRIER	ROUTE	CUSTOMER ORDER NUMBER	DELIVERY TIME	TRUCK OR CAR NUMBER
T-1105			SAP	332

PHOENIX CEMENT	BULK	SACK	O C	PACKAGES	TONS
PORTLAND TYPE I/II LA	201	202			
SUPERMORTAR TYPES	401	402			
PLASTIC CEMENT	701	702			
DYNAMORTAR	751	752			
PORTLAND POZZ TYPE IP	151	152			
BAGGIES					
FLY ASH					27.5

Subject to Section 7 / Conditions, of applicable bill of lading, if the shipment is to be delivered to the consignee without recourse on the consignor the consignee shall sign the following statement
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

PHOENIX CEMENT CO
(Signature of Consignee)

FLY ASH

WEIGHMASTER/DEPUTY

INSTRUCTIONS

REGULAR MORTAR PALLETS

If charges are to be prepaid write or stamp here "To be Prepaid"
PREPAID
Received $ ... to apply in prepayment of the charges on the property described hereon
Agent or Cashier
Per (The signature here acknowledges only the amount prepaid)
Charges Advanced $

CEMENT TESTS
01 ASTM C 150
02 ASTM C-595
03 ASTM C 91
04 AASHTO M-85
05 AASHTO M 150
06 AASHTO M 240
07 ASTM C-618
SPECIFICATION COMPLIANCE CERTIFIED BY
Lee Goby per
Quality Control Manager
Lot Number

FRESHLY MIXED MORTAR GROUT OR CONCRETE MAY CAUSE SKIN IRRITATION AVOID DIRECT CONTACT
SIBLE & WASH EXPOSED SKIN AREA PROMPTLY WITH WATER IF ANY OF THE CEMENTITIOUS MATERIAL
THE EYES RINSE IMMEDIATELY WITH WATER KEEP OUT OF REACH OF CHILDREN

ment moves between two ports by a carrier by water the law requires that the bill of lading shall state whether it is carrier's or shipper's weight
Where the rate is dependent on value shippers are required to state specifically in writing the agreed or declared value of the property
or declared value of the property is hereby
stated by the shipper to be not exceeding ... per ...

X CEMENT CO —
NT POST OFFICE ADDRESS OF SHIPPER P O BOX 428 CLARKDALE ARIZ 86324

Shipper Per ... Agent

BY CARRIER	PER	DATE	TIME
	X Rdml 1741	9/21/93	
BY CONSIGNEE	PER	DATE	TIME

The description and weight indicated on this bill of lading are correct Subject to verification by the Trans Continental Freight Bureau according to agreement

CUSTOMER'S ORIGINAL 2

PHOENIX CEMENT CO.

Flyash Plant
Phoenix Cement Co
PO. Box 380
Joseph City AZ 86032

Sales Office
Phoenix Cement Co
PO Box 43470
Phoenix AZ 85080

Cement Plant
Phoenix Cement Co
PO Box 428
Clarkdale AZ 86324

This certifies that the cement/flyash c ... as with the specific requirements of specification(s)

Tanner Co
Tonapa

9/21/93

- [x] ASTM C 150 TYPE I/II
- [ ] ASTM C 150 TYPE III
- [ ] ASTM C91 TYPE S
- [ ] ASTM C595 (MS) TYPE IP
- [ ]
- [x] ASTM C-618 CLASS F

VIA 1
B/L 3989
DATE 9/21/93
LOT NO 5-932
APPROX TONS 27.28
BULK ✓ SACK

WITH THE FOLLOWING OPTIONAL REQUIREMENTS
For ASTM C150 Type I/II/ or III total alkali calculated as Na_2O, does not exceed 0.60%
For ASTM C618 Class F Fly Ash available alkali calculated as Na_2O, does not exceed 1.50%

Lee Goby QUALITY CONTROL MANAGER Dan Mendez PER

DISTRIBUTION 3 COPIES TO CUSTOMER 1 COPY TO SHIPPING

FLY ASH		27.5	

CEMENT C (Signature of Consig)

BY Dan Mendez WEIGHMASTER/DEPUTY

SHIPPING INSTRUCTIONS

REGULAR MORTAR PALLETS

If charges are to be prepaid write or stamp here "To be Prepaid"
PREPAID
Received $ ... to apply in prepayment of the charges on the property described hereon
Agent or Cashier
Per (The signature here acknowledges only the amount prepaid)
Charges Advanced $

CEMENT TESTS
01 ASTM C 150
02 ASTM C-595
03 ASTM C 91
04 AASHTO M-85
05 AASHTO M 150
06 AASHTO M 240
07 ASTM C-618
SPECIFICATION COMPLIANCE CERTIFIED BY
Lee Goby per
Quality Control Manager
Lot Number

CAUTION FRESHLY MIXED MORTAR GROUT OR CONCRETE MAY CAUSE SKIN IRRITATION AVOID DIRECT CONTACT WHERE POSSIBLE & WASH EXPOSED SKIN AREA PROMPTLY WITH WATER IF ANY OF THE CEMENTITIOUS MATERIAL GETS INTO THE EYES RINSE IMMEDIATELY WITH WATER KEEP OUT OF REACH OF CHILDREN

If the shipment moves between two ports by a carrier by water the law requires that the bill of lading shall state whether it is carrier's or shipper's weight
NOTE — Where the rate is dependent on value shippers are required to state specifically in writing the agreed or declared value of the property
The agreed or declared value of the property is hereby
specifically stated by the shipper to be not exceeding ... per ...

PHOENIX CEMENT CO —
PERMANENT POST OFFICE ADDRESS OF SHIPPER P O BOX 428 CLARKDALE ARIZ 86324

Shipper Per ... Agent

RECEIVED BY CARRIER	PER	DATE	TIME
	X Rdml 1741	9/21/93	
RECEIVED BY CONSIGNEE	PER	DATE	TIME

The description and weight indicated on this bill of lading are correct Subject to verification by the Trans Continental Freight Bureau according to agreement

CUSTOMER'S ORIGINAL 2

Tanner Construction
A Division of The Tanner Companies
Arizona 068050 Class A 068051 Class B-01
California 314079 Class A
3868 E. Broadway
PO. Box 52151
Phoenix AZ 85072 2151
602/437 7878

November 16, 1993

FAXED 11-16-93 5 pm 4 pgs

ARIZONA DEPARTMENT OF TRANSPORTATION
P O BOX 758
BUCKEYE, ARIZONA 85326

ATTN SIMEON BRUBAKER

SUBJECT POTABLE WATER SOURCE
2974-441

Gentlemen

Since ADOT has reviewed the attached test results and verbally approved our PCCP Potable Water Source from the community of Hopeville, please consider this our official request for utilizing this source

If you have any questions or comments please contact me mobile on 809-0013 or at the office on 386-7392

Signed Daniel G Cook
TANNER CONSTRUCTION
Daniel G Cook

Copy To: FILE, S PEARL, PLANT, LOG

RECEIVED
NOV 16 1993
ORG: 4344

apac

Committed to Excellence

ARIZONA SPS-2
550 PSI MIX

Tanner Construction

A Division of The Tanner Companies
Arizona 068050 Class A 068051 Class B-01
California 314079 Class A

3868 E. Broadway
P.O. Box 52151
Phoenix, AZ 85072-2151
602/437-7878

CONCRETE MIX DESIGNS

CLIENT: TANNER CONSTRUCTION PROJECT: IM-10-2(146) TONOPAH I-10-1-509 DATE: 07/23/93

CODE #: L086

STRENGTH: 550 FLEX @ 14 DAYS

DESCRIPTION:

CEMENT TYPE: APC TYPE II	POZZOLAN TYPE: CHOLLA CLASS F		oz/cwt	oz/cy
WATER REDUCER: WRDA-82	SOURCE: W R. GRACE	RATE:		25
AIR ENTRAINING: DARAVAIR-M	SOURCE: W.R. GRACE	RATE:		2
SAND/AGG. RATIO: 40%	COARSE AGGREGATE TYPE:	ASTM # 57 PIONEER		
WATER/CEMENT RATION: .47				

MATERIAL	AGG. PERCENT:		WEIGHT lbs)		SPECIFIC GRAVITY		VOLUME (cu. ft.)
CEMENT:			400.0		3.15		2.04
FLY ASH #1:		CHOLLA	100.0		2.17		0.74
FLY ASH #2:		NAVAJO	0.0		2.23		0.00
WATER, lbs:			233.0		1.00		3.73
FINE AGG #1:	100	ASTM	1285	223	2.65		7.77
FINE AGG #2:	0	BLEND	0		2.65		0.00
COARSE AGG #1:	100	3/4	1939	#57 PIONEER	2.67		11.64
COARSE AGG #2:	0	1 1/2	0		2.67		0.00
% AIR:			4%				1.08

TOTAL 3957 lbs VOLUME REQUIRED 27.00

UNIT WT. 147 PCF VOLUME CHECK 27.00

SLUMP: 1 5 INCH + or - 1"

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ARIZONA SPS-2
900 PSI MIX

Tanner Construction

A Division of The Tanner Companies
Arizona 068050 Class A 068051 Class B-01
California 314079 Class A

3868 E. Broadway
P.O. Box 52151
Phoenix, AZ 85072-2151
602/437-7878

CONCRETE MIX DESIGNS

CLIENT TANNER CONSTRUCTION PROJECT IM-10-2(146) TONOPAH I-10-1-509 DATE 09/07/93

CODE # 900
(Trial Batch No L081-3)
STRENGTH 900 FLEX @ 14 DAYS

DESCRIPTION

CEMENT TYPE APC TYPE II	POZZOLAN TYPE CHOLLA CLASS F		oz/cwt	oz/cy
WATER REDUCER WRDA-82	SOURCE W R GRACE	RATE	5	40
AIR ENTRAINING: DARAVAIR-M	SOURCE: W R GRACE	RATE		
SAND/AGG RATIO: 40%	COARSE AGGREGATE TYPE	ASTM # 57 PIONEER		
WATER/CEMENT RATION 36				

MATERIAL	AGG PERCENT		WEIGHT lbs)		SPECIFIC GRAVITY		VOLUME (cu ft)
CEMENT:			799 0		3 15		4 06
FLY ASH #1:		CHOLLA	0 0		2 17		0 00
FLY ASH #2:		NAVAJO	0 0		2 69		0 00
WATER, lbs:			292 0		1 00		4 68
FINE AGG #1:	40	ASTM	1207		2 65		7 30
FINE AGG #2	0	BLEND	0		2 65		0 00
COARSE AGG #1	60	3/4	1826	#57 PIONEER	2 67		10 96
COARSE AGG #2:	0	1 1/2	0		2 67		0 00
% AIR			0%				0 00

TOTAL 4124 lbs VOLUME REQUIRED 27 00

UNIT WT 153 PCF VOLUME CHECK 27 00

SLUMP 1 5 INCH + or - 1"

ARIZONA SPS-2
STATE MIX
550 PSI

Tanner Construction

A Division of The Tanner Companies
Arizona 068060 Class A 068061 Class B-01
California 314079 Class A

3668 E. Broadway
P.O. Box 52151
Phoenix, AZ 85072-2151
602/437-7878

CONCRETE MIX DESIGNS

CLNT: TANNER CONSTRUCTION PROJECT: IM-10-2(146) TONOPAH DATE: 07/23/93
I-10-1-509

CODE #: L087

STRENGTH: 550 FLEX @ 14 DAYS

DESCRIPTION:

CMT TYPE: APC TYPE II	POZZOLAN TYPE: CHOLLA CLASS F	oz/cwt	oz/cy
ER REDUCER: WRDA-82	SOURCE: W.R. GRACE RATE:		25
INTRAINING: DARAVAIR-M	SOURCE: W.R. GRACE RATE:		2
SAND/AGG. RATIO: 40%	COARSE AGGREGATE TYPE: ASTM # 467 PIONEER		
WATER/CEMENT RATIO: .45			

MATERIAL	AGG. PERCENT:		WEIGHT lbs)		SPECIFIC GRAVITY		VOLUME (cu. ft.)
MENT:			400.0		3.15		2.04
/ ASH #1:		CHOLLA	100.0		2 17		0.74
Y ASH #2:		NAVAJO	0 0		2.23		0.00
TER, lbs:			225.0		1.00		3.60
NE AGG #1:	100	ASTM	1311		2.65		7.93
NE AGG #2:	0	BLEND	0		2 65		0.00
ARSE AGG #1:	60	3/4	1188	#57 PIONEER	2.67		7.13
ARSE AGG #2:	40	1 1/2	792	#4 PIONEER	2 67		4.75
AIR:			3.0%				0 81
TOTAL		UNIT WT.	4016 lbs 149 PCF		VOLUME REQUIRED		27.00
SLUMP: 1 5 INCH + or - 1"					VOLUME CHECK		27.00

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ARIZONA SPS-2
LEAN CONCRETE BASE

Tanner Construction

A Division of The Tanner Companies
Arizona 068060 Class A 068061 Class B-01
California 314079 Class A

3668 E. Broadway
P.O. Box 52151
Phoenix, AZ 85072-2151
602/437-7878

CONCRETE MIX DESIGN

CLIENT: TANNER CONSTRUCTION PROJECT: IM-10-2(146) TONOPAH DATE: 07/23/93
I-10-1-509

CODE #: LC3

STRENGTH: LEAN BASE

DESCRIPTION:

CEMENT TYPE: APC TYPE II	POZZOLAN TYPE: CHOLLA CLASS F	oz/cwt	oz/cy
WATER REDUCER: WRDA-82	SOURCE: W.R. GRACE RATE:		3.5
AIR ENTRAINING: DARAVAIR-M	SOURCE: W R GRACE RATE:		3.5
SAND/AGG. RATIO:	COARSE AGGREGATE TYP ASC		
WATER/CEMENT RATIO: .88			

MATERIAL	AGG. PERCENT:		WEIGHT lbs.)		SPECIFIC GRAVITY		VOLUME (cu ft)
CEMENT:			234.0		3 15		1.19
FLY ASH #1:		CHOLLA	50.0		2.17		0.37
FLY ASH #2:		NAVAJO	0.0		2 23		0.00
WATER, lbs:			250.0		1.00		4.00
FINE AGG #1:	0	ASTM	0.0		2 65		0.00
FINE AGG #2:	0	BLEND	0		2.65		0.00
COARSE AGG #1:	100	ASC	3343		2.65		20.23
COARSE AGG #2:	0	1 1/2	0.0		2.67		0.00
% AIR:			4.5%				1.21
TOTAL		UNIT WT.	3879 lbs 144 PCF		VOLUME REQUIRED		27.00
SLUMP: 2 INCH + or - 1"					VOLUME CHECK		27.00

Committed to Excellence

2974-228

CRAFCO. INC.

6975 W CRAFCO WAY CHANDLER AZ 85226 602/276-0406
WATS (800) 528-8242 FAX (602) 961-0513

CERTIFICATE OF COMPLIANCE
CRAFCO ROADSAVER SILICONE SEALANT
(Part No 34902)

General Contractor	Tanner Construction
Subcontractor	Phoenix Concrete Cutting, Inc
Project No	IM-10-2 (146)
Project Location	Ehrenburg - Phoenix Hwy (Tonopah / S R 85)
Lot No	SO 173X
Quantity	500 gallons (approximate)

Crafco Inc certifies that the RoadSaver Silicone Sealant meets the following requirements for Silicone sealant

Test Parameter	ADOT 1011-8 Specification Limits
Tensile Stress, 150% Elongation (D412, Method A, Die C)	45 psi max
Elongation, (D412, Method A, Die C)	700% min
Extrusion Rate (C603)	25 seconds max.
Specific Gravity (D792, Method A)	1 15-1 515
Tack Free Time (C679)	120 minute max
Durometer Hardness (D2240, A)	25 max
Movement (C719)	+/- 50% minimum of joint width, 10 cycles, 15% maximum adhesive loss

Respectfully submitted,

CRAFCO, INC

Larry D Erickson
Specialty Products Manager

CHECKLIST
Date Rec'd 6/30/93
✓ Project No
✓ Contractor
✓ Kind of Material
✓ Quantity of Material
✓ Identification
✓ Compliance Statement
✓ Orig Sign & Notary
TC Results (Cert of analysis)
Date Materials Checked
Agent Cert 7/6/93
Inspector
Approved By

Sworn to and subscribed before me this 8th day of April, 1993
Vicki L. Cooper
Notary Public
My Commission Expires Aug. 14, 1993

CONSISTENT AND DEPENDABLE SERVICE AND PRODUCTS
TO SATISFY THE CUSTOMER AND OUR COMPANY'S GOALS

Tanner Construction

A Division of The Tanner Companies
Arizona 068050 Class A 068051 Class B-01
California 314079 Class A

3888 E. Broadway
PO. Box 52151
Phoenix AZ 85072 2151
602/437 7878

T R A N S M I T T A L

THE TANNER COMPANIES
P O BOX 52151
PHOENIX, ARIZONA 85072-2151
PHONE 437-7878

DATE: 06/30/93
TANNER JOB NO 2974-228
PROJECT IM-10-2(146)
I-10-1(509) TONOPAH SR85

TO ARIZONA DEPARTMENT OF TRANSPORTATION
P O BOX 758
BUCKEYE, ARIZONA 85326

ATTN. SIMEON BRUBAKER

Gentlemen WE ARE SENDING YOU X ATTACHED Certified Payroll
___ Shop Drawings ___ Prints ___ Plans ___ Samples
___ Copy of Letter ___ C. O X Certifications

COPIES	DATE	DESCRIPTION
3	4-08-93	PHOENIX CONCRETE CUTTING, INC "CRAFCO ROADSAVER SILICONE SEALANT" LOT No SO173X (500 GALLONS) Part 34902 ADOT 1011-8 SPECIFICATION LIMITS

THESE ARE TRANSMITTED as checked below.

X For approval ___ Approved as subm ___ Resub ___ copies
X For your use ___ Approved as noted ___ Return copies
X As requested ___ Ret for correction
___ For review and comment

REMARKS.

Signed
TANNER CONSTRUCTION

Copy To: FILE

apac

Committed to Excellence

Western Technologies Inc.
The Quality People
Since 1955

[illegible] East Broadway Road
Phoenix Arizona 85040
(602) 437 3737 • fax 470-1341

March 24, 1993

Crafco, Inc
6975 West Crafco Way
Chandler, Arizona 85224

Attn Mr John Hobbs

Re Silicone Joint Sealant Testing
Crafco Lot No S0173X
Reference No 2242J321-011

In accordance with your request and authorization, Western Technologies Inc has completed a series of tests on a sample of Crafco silicone joint sealant The material was sampled by Arizona Department of Transportation (ADOT) personnel on February 16, 1993, and submitted to our Phoenix laboratory by Mr Hobbs of Crafco, Inc , on February 16, 1993

The sealant material was identified as a low modulus silicone sealant for portland cement concrete pavement joints, and was furnished in a single part formulation

Specimens for tensile stress, elongation, specific gravity and durometer hardness were prepared from a master sheet after the material was placed in a template on aluminum plates at a 1/8-in thickness and allowed to condition at 77 ± 2°F and 50 ± 5 percent relative humidity for 7 days

The bond specimens for cyclic movements were cured for 21 days in accordance with Article 7 2 of ASTM C719 Following this cure period, the specimens were immersed in distilled water for an additional 7 days The movement specimens were then compressed to 50 percent of their joint width and placed in a forced draft oven at 158 ± 3 6°F for 7 days After cooling, the specimens were subjected to the cyclic joint movement according to the standard conditions of ASTM C719

The results of this testing are presented, along with the physical requirements for the material, in the attached table

The Crafco silicone joint sealant, Lot No. S0173X meets the physical requirements as listed in the ADOT specification section 1011-8

[illegible]fco Inc
[illegible]erence No 2242J532-011

SILICONE JOINT SEALANT, CRAFCO INC, LOT NO. S0173X

Test	Test Method	Result	ADOT Sect. 1011 8 Material Requirements
[illegible]ile Stress 150% Elongation / Cure) psi (Avg of 5)	ASTM D412 (Method A Die C)	39 3	45 psi Maximum
[illegible]imum Elongation at Failure %	ASTM D412	***800+	700% Minimum
[illegible]sion Rate seconds	ASTM C9 290 (Type S Grade NS)	2	25 sec Maximum
[illegible]ic Gravity	ASTM D792 (Method A)	1 303	1 15 to 1 515
Free Time minutes	ASTM C 679	88	120 Min Max
[illegible]meter Hardness, Shore A (7 Day [illegible]at 50 ± 5% Relative Humidity	ASTM D 2240	10	25 Maximum
[illegible]hesion and Cohesion of Elastic Sealants Under Cyclic Movement	ASTM C719 (Mortar Block)	12% Adhesive Failure with No Cohesive Failure Noted	+50% / 50% of Joint Width. Adhesive Loss Maximum 15% of Surface Area No Cohesive Failure after 10 Cycles at Standard Conditions

[illegible]e cured 7 days at 77 ± 2°F and 50 ± 5% relative humidity

[illegible]ing was conducted at 73 4 ± 3 6°F and 50 ± 5% relative humidity after the prescribed conditioning periods

[illegible]ecimens elongated beyond the travel limit of the testing machine, without breaking

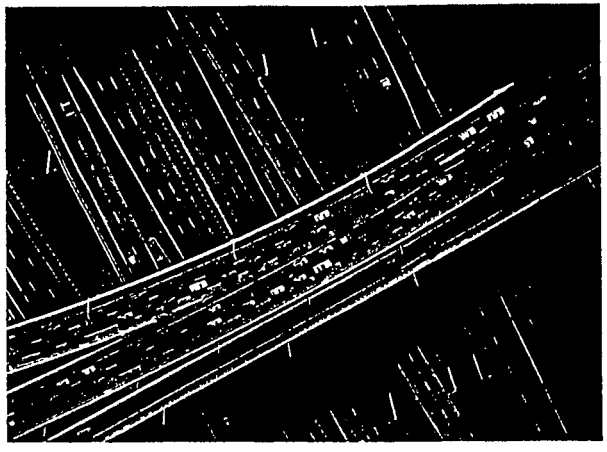
[illegible] of the above testing indicate that the silicone joint sealant material, Lot No S0173X meets the physical requirements as shown

INTERNATIONAL ROAD DYNAMICS INC

SUBMITTALS FOR:
ARIZONA DEPARTMENT OF TRANSPORTATION
CONTRACT NO IM-10-2(146)

SUPPLY OF:
HIGH SPEED BENDING PLATE WEIGH-IN-MOTION SYSTEM

DATE. SEPTEMBER 1993



Tanner Construction

A Division of The Tanner Companies
068050 Class A 068051 Class B-01

3888 E Broadway
P.O. Box 52151
Phoenix AZ 85072 2151
602/437 7878

T R A N S M I T T A L

THE TANNER COMPANIES
P O BOX 52151
PHOENIX, ARIZONA 85072-2151
PHONE. 437-7878

DATE 09/27/93
TANNER JOB NO 2974-354
PROJECT IM-10-2(146)
I-10-1(509) TONOPAH SR85

TO ARIZONA DEPARTMENT OF TRANSPORTATION
P O BOX 758
BUCKEYE, ARIZONA 85326

ATTN. SIMEON BRUBAKER

Gentlemen WE ARE SENDING YOU _X_ ATTACHED Certified Payroll
___ Plans ___Prints ___ Sample _X_ DRAWINGS ___ Samples
___ Copy of Letter ___ C O _X_ TECHNICAL SPECIFICATION
_X_ INSTALLATION INSTRUCTIONS
_X_ COMPONENT INFORMATION

COPIES	DATE	NO	
1	SEPTEMBER	93	INTERNATIONAL ROAD DYNAMICS INC (IRD) HIGH SPEED BENDING PLATE WEIGH-IN-MOTION SYSTEM (WIM ASSEMBLY)
			WORKING THROUGH CEBALLOS ELECTRICAL
			THE ABOVE (_X_) ITEMS ARE SUBMITTED FROM THIS COMPANY PER A D O T ITEM NO 7100020

THESE ARE TRANSMITTED as checked below

_X_ For approval ___ Approved as subm ___ Resub ___ copies
_X_ For your use ___ Approved as noted ___ Return copies
_X_ As requested ___ Ret for correction
___ For review and comment

REMARKS

Signed Daniel G Cook
TANNER CONSTRUCTION
Daniel G Cook,
Project Supervisor

RECEIVED
SEP 28 1993
ORG: 4344

Committed to Excellence

Copy apac ng, File, S Pearl

CORPORATE OFFICE. 702 43rd Street East, Saskatoon, Saskatchewan, CANADA S7K 3T5
Telephone (306) 653-6600 Facsimile: (306) 242 5599

IRD DYNAX® MODEL AS400 AXLE SENSOR
TECHNICAL SPECIFICATION AND INSTALLATION GUIDE
April, 1993

DESCRIPTION.
This information sheet describes the technical specifications and installation details for the IRD DYNAX® Model AS400 Axle Sensor (patented) The DYNAX® Axle Sensor is a permanent, "resistive" axle sensor, which is used for the detection of axles on a roadway

MATERIALS.
The IRD DYNAX® Axle Sensor is constructed of a resistive material sensitive to pressure The sensor is enclosed in a semi-rigid material, impervious to moisture and roadway deicing chemicals For added strength, a stiffener bar is enclosed with the resistive material, to prevent damage while handling, prior to installation While this bar adds robustness to the sensor, excessive bending can still damage it Therefore prevent bending of the sensor with appropriate handling precautions

The DYNAX® Model AS400 sensor is approximately one inch square (1" x 1") with a length of seven feet four inches (7'4") (or as specially ordered) A two (2) conductor 18 AWG twisted shielded lead cable of one hundred feet (100') is attached

Five (5) mounting brackets and five (5) cable ties are supplied with each sensor For orders of eleven (11) sensors and more, 25% of mounting brackets and five (5) cable ties are supplied with each sensor It is important to note that brackets are re-usable and should be cleaned immediately following sensor installation

OPERATION OF DYNAX® SENSOR:
Under no-load conditions, a resistance measurement between the sensor leads should be ten (10) megohms or greater upon receipt of delivery (SEE TESTING THE DYNAX®) If the reading is below ten (10) megohms, IRD should be consulted immediately

After installation and time passage, the resistance of the DYNAX® Sensor may change due to various factors, such as road conditions, normal wear, changing environment, etc The sensor, however, will remain operational down to a no-load resistance measurement of one (1) megohm, I e the sensor will continue to detect axles

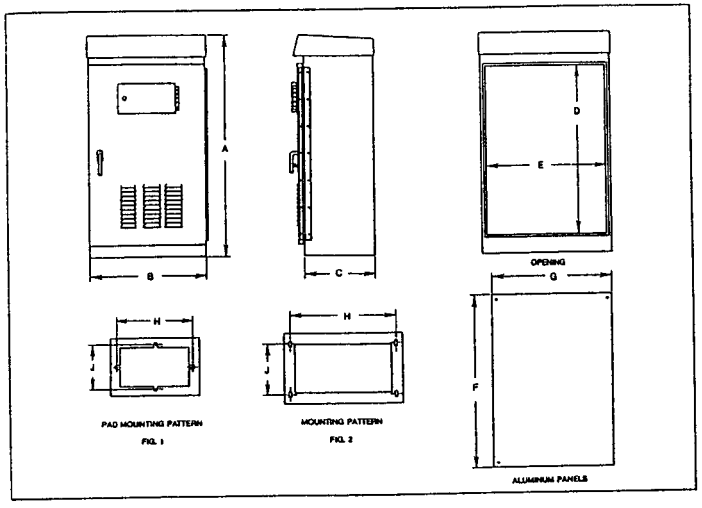
SPECIFICATIONS FOR IRD BENDING PLATE WEIGH-IN-MOTION SCALES

TECHNICAL DETAILS

The IRD Bending Plate™ Weigh-In-Motion (WIM) Scales are a low profile in motion scale designed for weighing at all speeds Two 6' by 2' scales are used per lane giving a total weighing surface of 12' by 2' IRD Bending Plate scales incorporate the following features

- Each weighpad contains six transducers installed with a CNC machined steel pad The transducers are designed to allow a scale to be linearized across the entire 6' weighing width All pads are identical for easy scale maintenance The weighpad is 1 ¾" thick, and required 2" when mounted on the frame bearing pads
- Each load cell is sealed within the scale pad, and is field replaceable
- Each weighpad incorporates an offscale detector at the outside edge of the pad (2" from the weighing surface edge) This allows wheels that are potentially overhanging the weighing surface to be identified. The offscale detector is field replaceable
- All connections within the scale from the transducers and offscale detectors are sealed and potted forming a completely waterproof scale pad The signal cable from the pad is a single length of shielded cable, which is sealed to the weighpad.
- The weighpad frames can be mounted in existing pavements (which exceed 9" in thickness), or in a shallow vault The frames are secured into existing pavements utilizing an epoxy grout adhesive The frame incorporates unique lateral anchoring fins, in combination with vertical epoxy anchors Shallow vault installation utilizes a 24" deep concrete vault
- The scales are fastened to the frames using 12 high strength bolts (two per each of six bearing pads) All open holes on the scale surface are sealed with drive in frost plugs
- The scale is sealed along the frame contact using a flexible sealant This prevents water and debris from entering the scale unit
- The signal cable is routed away from the scale vault through a rigid metal conduit This conduit also acts as a drain for any moisture which may enter the scale pit from the surface This conduit can be heat traced in cold climates to prevent ice accumulation in the scale pit.

NEMA 3R-12-4-4X
LARGE SINGLE DOOR ENCLOSURES



OPTIONS

- Pedestal Adaptor (reinforced bottom)
- Locks Keying other than standard
- Windows
- Painted Finishes
- 14 Gauge Cold Rolled Steel (available in HP412516 HP503017, HP553826, HP554426 HP773826 and HP774426)
- Shelves
- Panels

Dimensions (inches)

Catalog Number	Suggested Mounting Options				Cabinet			Opening		Panel		Pad Mtg. Pattern	
	T.L.D	Ped.	Pole	Pad	A	B	C	D	E	F	G	H	J
HP301815	2B	Yes	Yes	Yes	30	18	15	22	15⅝	22	15	N/A	12
HP362015	3B	Yes	Yes	Yes	36	20	15	28	17⅝	28	17	N/A	12
HP412516	G	Yes	Yes	Yes	41	25	16	33	22⅛	35	21	N/A	13
HP512516	K	No	Yes	Yes	51	25	16	43	22⅛	45	21	N/A	13
HP503017	M	No	Yes	Yes	49⅛	30	17	38	27⅛	42	27	26⅛	13⅛
HP503617	M36	No	No	Yes	49⅛	36	17	38	33⅛	42	33	32⅛	13⅛
HP563017	MXX	No	No	Yes	57⅛	30	17	46	27⅛	50	27	26⅛	13⅛
HP763017	MXX	No	No	Yes	75⅛	30	17	64	27⅛	68	27	26⅛	13⅛
HP553826	P-38	No	No	Yes	55⅞	38	26	42⅛	35⅛	46	35	34⅛	18⅛
HP554426	P-44	No	No	Yes	55⅞	44	26	42⅛	41⅛	46	41	40⅛	18⅛
HP773826	R-38	No	No	Yes	77	38	26	66⅛	35⅛	69	35	34⅛	18⅛
HP774426	R-44	No	No	Yes	77	44	26	66⅛	41⅛	69	41	40⅛	18⅛

Fig. 1

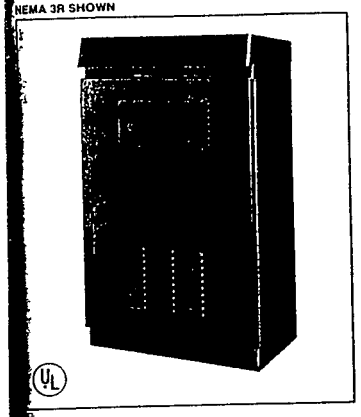
Fig. 2

NOTE. See Accessories (page 16 & 17) for panels and shelves

External Mounting Pattern available

Hennessy Products, Inc.

NEMA 3R SHOWN



LARGE SINGLE DOOR ENCLOSURES

APPLICATION — NEMA 3R

Hennessy Products, Inc large single door enclosures are designed to house electronic controls, terminals and instruments and to provide protection from rain, sleet, snow, dripping water and corrosion

APPLICATION — NEMA 12, 4, 4X

Hennessy Products inc large single door enclosures are designed to house electronic controls terminals and instruments and to provide protection from rain, sleet, snow and dripping water and to provide protection from corrosion, hosedown, splashing water, oil or coolant seepage

INDUSTRY STANDARD

U.L. Type 3R 12 4 and 4X

STANDARD CONSTRUCTION (Based on NEMA 3R Design)

A Enclosure
1. Complete enclosure is made from 12S thick aluminum type 5052 H32 to provide a strong and rigid construction
2. The enclosures shall be equipped with two adjustable 'C' mounting channels on both side walls and back wall of the enclosure allowing versatile positioning of shelves or panels
3. The enclosure door frame shall be double flanged out on all four sides These flanges increase strength of opening and keep dust and liquids from dropping into enclosures when door is opened
4. Pole or wall mounted enclosures have stiffener plates welded to top and bottom of rear wall Pole mounted enclosures have a plate bolted to bottom of enclosure
*5. Enclosure has provisions for mounting forced air fan system and has a screened air exhaust opening under roof overhang
6. All exterior seams are either continuously welded or sealed with G.E. silicone sealant
7. All external hardware is stainless steel All internal hardware is either stainless steel or cadmium plated, Type II, Class I or equal

B Doors
1. Equipped with three point latching mechanism with nylon rollers at top and bottom
2. Door handle is ¾" diameter stainless steel and has provisions for padlocking
*3. Main door lock is Corbin #1548-1 or equal
*4. A louvered air vent with filter retainer brackets is provided
5. Main door is sealed with closed cell neoprene gasket.
*6. A switch compartment, with removable back panel is supplied Switch compartment door lock is a Corbin R357SGS series or equal and has a key hole cover
7. Main door has a heavy gauge continuous hinge with 1/4 diameter stainless steel hinge pin Hinge is secured with 1/4-20 stainless steel carriage bolts and stainless steel nylock nuts
8. Switch compartment door hinge is 14 gauge stainless steel with a 120 diameter stainless steel hinge pin

FINISH

Natural aluminum enclosures are mill finish per Fed Spec QQA-250/8 Painted enclosures are treated with three (3) stage iron phosphate coating and forced air dried Standard finish coat is a bake alkali enamel

FOR NEMA TYPE 12, 4 AND 4X RATING

DELETE All vents and Corbin main door lock #1548-1 Corbin R357SGS from switch compartment

ADD All through holes are sealed

HENNESSY PRODUCTS

OFFERS
ULTIMATE SECURITY AND PROTECTION ADDITIONAL ENCLOSURE DEPTH
PLUS MUCH MORE

Stations	From Centerline Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
5588 5 aggbs	6 2	6 1	5 9	5 8	5 3
5589 0 aggbs	6 2	6 2	5 9	5 9	5 9
40261 0 5589 5 aggbs	6 0	6 1	5 8	5 5	5 8
AZ-24 5590 0 aggbs	5 8	6 0	5 8	5 5	5 4
AC8 5 5590 5 aggbs	5 8	5 6	5 9	5 6	5 5
DGAB4 5591 0 aggbs	5 9	5 6	5 5	5 9	5 5
5591 5 aggbs	5 8	5 9	5 9	5 8	5 5
5592.0 aggbs	5 6	5 6	5 5	5 6	5 0
5592.5 aggbs	6 4	6 0	6 2	6 0	5 4
5593 0 aggbs	6 1	5 9	6 0	6 0	5 4
5593.5 aggbs	6 1	5 8	6 0	5 8	5 6
Avg	5 8				
Min	5 0				
Max	6 4				
Std D	0 3				

Stations	From Centerline Rt.0	Rt 3	Rt 6	Rt.9	Rt.12
5741 0 aggbs	5 3	5 0	5 3	5 2	5 2
5741 5 aggbs	5 6	5 5	5 5	5 6	5 8
40260 0 5742 0 aggbs	5 5	5 4	5 4	5 6	5 9
AZ-24 5742 5 aggbs	5 4	5 5	5 6	5 8	5 8
AC8 5 5743 0 aggbs	5 4	5 2	5 5	5 5	5 5
DGAB4 5743 5 aggbs	5 6	5 3	5 5	5 5	5 4
5744 0 aggbs	5 3	5 0	5 2	5 4	5 4
5744 5 aggbs	5 9	5 3	4 9	5 9	5 6
5745 0 aggbs	5 9	5 6	5 8	6 1	5 9
5745 5 aggbs	6 2	5 9	6 0	6 4	6 2
5746 0 aggbs	6 0	5 6	5 9	5 9	6 4
Avg	5 6				
Min	4 9				
Max	6 4				
StdDv	0 3				

Stations	From Centerline Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
5595 0 aggbs	6 0	5 4	6 0	6 0	5 4 PCCP
5595 5 aggbs	6 1	5 8	6 0	6 0	5 8 PCCP
5596 0 aggbs	6 4	6 0	5 8	6 0	5 6 PCCP
5596 5 aggbs	6 5	6 0	6 0	6 1	5 6 PCCP
40214 0 5597 0 aggbs	6 4	6 1	6 2	6 1	5 6 PCCP
Y-14 5597 5 aggbs	6 4	5 9	6 4	6 1	5 9 PCCP
PCCP8 5598 0 aggbs	6 6	6 1	6 2	6 2	6 2 PCCP
DGAB6 5599 5 aggbs	6 4	6 2	6 2	6 1	6 2 PCCP
5600 0 aggbs	6 2	6 1	6 2	6 1	5 8 PCCP
5600 5 aggbs	6 4	6 0	6 4	6 0	6 1 PCCP
5601 0 aggbs	5 9	6 0	6 0	5 9	6 1 PCCP
Avg	6 1				
Min	5 4				
Max	6 6				
StdDv	0 2				

From Centerline Rt 0	Rt.3	Rt 6	Rt 9	Rt 12
8 8	9 1	8 8	8 5	8 8
8 5	8 8	8 4	8 4	8 5
8 4	8 5	8 8	8 5	8 3
8 4	8 5	8 4	8 2	8 5
8 4	8 5	8 4	8 3	8 5
8 4	8 4	8 3	8 2	8 2
8 3	8 5	8 4	8 3	8 5
8 4	8 6	8 3	8 2	8 2
8 4	8 5	8 4	8 4	8 5
8 4	8 5	8 4	8 3	8 4
9 4	9 2	9 2	9 1	8 9
Avg	8 5			
Min	8 2			
Max	9 4			
Std D	0 3			

		From Centerline Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		From Centerline Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		From Centerline Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5602 0 aggbs	37	37	37	36	37 PBTB		40	42	42	41	41 PCCP		89	85	85	85	85
	5602 5 aggbs	41	41	42	40	38 PBTB		38	40	38	40	43 PCCP		88	85	84	83	80
40222 0	5603 0 aggbs	44	41	42	41	35 PBTB		40	41	42	44	47 PCCP		86	85	84	80	80
Y-22	5603 5 aggbs	42	41	43	42	37 PBTB		38	38	40	38	44 PCCP		88	88	86	85	82
PCCP8	5604 0 aggbs	44	42	42	42	38 PBTB		36	41	40	40	46 PCCP		89	86	85	84	82
PBTB4	5604 5 aggbs	43	41	41	43	42 PBTB		37	40	37	37	38 PCCP		88	86	88	85	85
DGAB4	5605 0 aggbs	44	43	46	43	43 PBTB		34	36	34	36	40 PCCP		89	86	86	84	80
	5605 5 aggbs	43	42	43	42	42 PBTB		32	35	34	34	36 PCCP		94	92	91	90	89
	5606 0 aggbs	52	48	50	49	43 PBTB		35	36	32	31	34 PCCP		91	90	91	91	91
	5606 5 aggbs	42	43	46	43	43 PBTB		37	38	36	34	35 PCCP		89	85	86	88	85
	5607 0 aggbs	43	42	44	43	40 PBTB		41	41	40	38	41 PCCP		83	83	82	82	83
	5607 5 aggbs	43	38	41	42	42 PBTB		37	38	36	35	36 PCCP		89	90	86	88	85
	Avg	42					Avg	38					Avg	86				
	Min	35					Min	31					Min	80				
	Max	52					Max	47					Max	94				
	StdDv	03					StdDv	03					StdDv	03				

		From Centerline Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		From Centerline Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5609 5 LCB	64	64	62	61	60 PCCP		83	80	82	83	83
40218 0	5610 5 LCB	62	65	60	59	59 PCCP		86	84	86	85	86
Y-18	5611 0 LCB	61	65	60	59	56 PCCP		86	82	85	85	86
PCCP8	5611 5 LCB	62	61	60	58	56 PCCP		85	84	85	88	86
LCB6	5612 0 LCB	65	64	61	60	59 PCCP		86	84	85	85	85
	5612 5 LCB	65	66	61	61	60 PCCP		83	82	85	84	85
	5613 0 LCB	66	62	61	59	60 PCCP		85	84	84	86	86
	5613.5 LCB	65	64	61	62	60 PCCP		82	82	83	83	83
	5614 0 LCB	68	67	64	62	62 PCCP		83	83	85	85	85
	5614 5 LCB	66	64	61	62	59 PCCP		83	82	85	83	86
	5615 0 LCB	70	66	61	60	61 PCCP		83	83	85	86	88
	5615 5 LCB	65	62	62	62	65 PCCP		84	85	86	86	86
	Avg	62					Avg	84				
	Min	56					Min	80				
	Max	70					Max	88				
	StdDv	03					StdDv	02				

		From Centerline					From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12	Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5617 0 LCB	6 4	6 4	6 4	6 1	6 0 PCCP	11 9	11 6	11 8	11 8	11 9
	5617 5 LCB	6 6	6 1	6 1	6 0	6 0 PCCP	11 4	11 5	11 6	11 5	11 5
	5618 5 LCB	6 6	6 1	6 2	6 0	5 8 PCCP	11 4	11 5	11 8	11 6	11 6
	5619 0 LCB	6 6	6 6	6 2	6 2	6 1 PCCP	12 1	11 5	11 8	11 5	11 8
40220 0	5619 5 LCB	6 6	6 1	6 1	6 0	5 9 PCCP	11 9	12 0	11 9	11 9	12 0
Y-20	5620 0 LCB	6 5	6 6	6 0	6 0	5 9 PCCP	11 5	11 5	11 8	11 6	11 8
PCCP11	5620 5 LCB	6 5	6 1	6 0	6 1	6 0 PCCP	11 6	11 4	11 6	11 6	11 8
LCB6	5621 0 LCB	6 4	6 2	6 1	5 9	6 0 PCCP	11 5	11 6	11 8	11 8	11 8
	5621 5 LCB	6 4	5 9	6 0	6 0	5 8 PCCP	11 6	11 6	11 8	11 5	11 5
	5622 0 LCB	6 2	6 1	6 1	6 0	5 9 PCCP	11 6	11 5	11 5	11 4	11 4
	5622 5 LCB	6 4	6 2	5 9	6 0	6 0 PCCP	11 4	11 3	11 4	11 3	11 4
	5624 0 LCB	6 4	6 4	6 2	6 0	6 0 PCCP	11 3	11 3	11 4	11 4	11 4
	5624 5 LCB	6 0	5 8	5 9	5 8	5 9 PCCP	11 2	11 4	11 3	11 3	11 4
	5625 0 LCB	7 0	6 6	6 4	6 4	6 4 PCCP	10 9	10 7	10 9	10 9	11 0
	5625 5 LCB	6 4	6 1	5 9	5 9	5 9 PCCP	11 0	10 8	11 2	11 2	11 3
	5626 0 LCB	6 8	6 8	6 8	6 8	6 2 PCCP	11 2	11 0	11 3	11 2	11 5
	Avg	6 2				Avg	11 5				
	Min	5 8				Min	10 7				
	Max	7 0				Max	12 1				
	StdDv	0 3				StdDv	0 3				

		From Centerline					From Centerline					From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12	Rt 0	Rt 3	Rt 6	Rt 9	Rt 12	Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5627 0 aggbs	4 2	4 1	3 8	4 1	3 6 PBTB	4 6	4 6	4 2	4 3	4 4 PCCP	10 7	10 7	11 2	11 0	10 9
	5627 5 aggbs	4 2	3 8	3 7	4 1	3 8 PBTB	4 6	4 9	4 7	4 1	4 0 PCCP	10 7	10 3	10 7	11 2	11 2
	5628 0 aggbs	4 1	3 8	4 0	3 8	3 5 PBTB	4 7	5 3	4 6	4 6	4 6 PCCP	10 3	9 8	10 2	10 3	10 4
40224 0	5628 5 aggbs	4 2	4 1	4 0	4 1	3 4 PBTB	4 1	4 1	4 1	4 0	4 4 PCCP	10 7	10 8	10 8	10 8	10 9
Y-24	5629 0 aggbs	4 2	4 2	4 1	4 1	3 5 PBTB	4 0	4 3	4 3	4 3	4 4 PCCP	10 8	10 4	10 4	10 4	10 6
PCCP11	5629 5 aggbs	4 0	3 6	4 0	4 0	3 5 PBTB	3 8	4 4	4 4	4 3	4 7 PCCP	10 9	10 7	10 6	10 6	10 6
PBTB4	5630 0 aggbs	4 1	3 8	4 0	4 0	3 2 PBTB	3 8	4 1	4 2	4 2	4 4 PCCP	11 2	10 8	10 8	10 8	10 9
DGAB4	5630 5 aggbs	4 1	3 6	3 8	4 0	3 5 PBTB	4 1	4 4	4 4	4 4	4 4 PCCP	11 0	10 9	10 8	10 7	10 9
	5632 0 aggbs	4 1	3 7	3 6	3 8	3 4 PBTB	4 1	4 3	4 7	4 3	4 7 PCCP	10 9	10 8	10 6	10 7	10 7
	5632 5 aggbs	3 8	3 7	3 7	3 6	3 5 PBTB	4 2	4 2	4 1	4 2	4 1 PCCP	11 0	10 9	11 0	11 0	11 3
	5633 0 aggbs	4 0	3 8	3 7	4 0	3 5 PBTB	4 4	4 6	4 8	4 6	4 7 PCCP	10 6	10 4	10 4	10 3	10 7
	Avg	3 8				Avg	4 4				Avg	10 7				
	Min	3 2				Min	3 8				Min	9 8				
	Max	4 2				Max	5 3				Max	11 3				
	StdDv	0 2				StdDv	0 3				StdDv	0 3				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5634 5 aggbs	6 1	5 9	5 9	6 4	5 6 PCCP		11 2	11 5	11 4	11 2	11 3
	5635 0 aggbs	6 5	6 1	6 1	6 2	6 0 PCCP		11 0	11 2	11 2	11 0	11 3
40216 0	5635 5 aggbs	6 5	5 0	6 1	6 5	6 1 PCCP		10 7	11 2	11 3	10 8	10 9
Y-16	5636 0 aggbs	6 5	6 6	6 4	6 7	6 1 PCCP		10 9	11 0	11 2	10 8	10 9
PCCP 11	5636 5 aggbs	6 6	6 4	6 4	6 4	5 6 PCCP		11 2	11 2	11 3	11 3	11 4
DGAB6	5637 0 aggbs	6 4	6 2	6 2	6 4	5 9 PCCP		11 3	11 0	11 2	11 3	11 4
	5637 5 aggbs	6 1	5 9	6 0	6 4	5 9 PCCP		11 4	11 4	11 3	11 0	11 2
	5638 0 aggbs	6 2	6 4	6 4	6 2	5 5 PCCP		11 2	11 2	11 2	11 3	11 4
	5638 5 aggbs	6 0	6 1	6 1	6 2	5 8 PCCP		11 2	11 2	11 4	11 3	11 5
	5639 0 aggbs	6 4	6 2	6 4	6 4	6 1 PCCP		11 0	11 0	11 0	11 0	11 3
	5639 5 aggbs	6 0	6 0	6 2	6 4	6 0 PCCP		11 4	11 4	11 3	11 3	11 4
	5640 0 aggbs	6 1	6 2	6 1	6 5	5 9 PCCP		11 4	11 3	11 3	10 9	11 2
	Avg	6 2					Avg	11 2				
	Min	5 0					Min	10 7				
	Max	6 7					Max	11 5				
	StdDv	0 3					StdDv	0 2				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt.12
	5641 5 aggbs	6 0	5 9	6 0	6 0	5 8 PCCP		11 4	11 3	11 0	11 2	11 3
	5642 0 aggbs	6 2	6 1	5 6	6 2	5 9 PCCP		11 4	11 5	11 8	11 2	11 6
	5642 5 aggbs	6 2	6 0	6 0	6 2	6 0 PCCP		11 4	11 2	11 3	11 2	11 4
40215 0	5643 0 aggbs	6 2	6 2	6 0	6 4	5 8 PCCP		11 3	11 3	11 3	11 0	11 5
Y-15	5643 5 aggbs	6 1	6 4	5 8	6 2	5 6 PCCP		11 2	10 9	11 3	11 0	11 2
PCCP 11	5644 5 aggbs	6 2	6 0	4 8	6 1	5 5 PCCP		11 3	11 3	11 3	11 3	11 4
DGAB6	5645 0 aggbs	6 2	6 1	6 1	6 2	5 8 PCCP		11 4	11 4	11 3	11 3	11 5
	5645 5 aggbs	6 0	6 0	5 6	6 1	5 4 PCCP		11 4	11 5	11 6	11 3	11 6
	5646 0 aggbs	6 5	6 1	6 0	6 5	6 4 PCCP		11 4	11 5	11 4	11 3	11 5
	5646 5 aggbs	6 4	5 9	6 0	6 0	6 1 PCCP		11 0	11 4	11 2	11 4	11 5
	5647 0 aggbs	6 6	6 0	6 2	6 6	6 0 PCCP		10 7	11 0	10 9	10 7	11 0
	5647 5 aggbs	6 2	6 0	6 0	6 4	6 1 PCCP		10 8	10 9	11 0	10 9	11 2
	5648 0 aggbs	6 4	6 1	6 2	6 5	6 1 PCCP		11 3	11 3	11 2	11 2	11 3
	5648 5 aggbs	6 2	6 1	6 2	6 4	6 2 PCCP		11 2	11 0	10 8	10 9	11 2
	5649 0 aggbs	6 5	6 4	6 5	7 1	6 0 PCCP		11 2	11 0	11 0	10 4	11 5
	5649 5 aggbs	6 4	6 4	6 2	6 6	6 2 PCCP		11 4	11 3	11 3	10 9	11 3
	5650 0 aggbs	6 5	6 4	6 5	6 5	6 6 PCCP		11 4	11 4	11 5	11 5	11 5
	Avg	6 1					Avg	11 2				
	Min	4 8					Min	10 4				
	Max	7 1					Max	11 8				
	StdDv	0 3					StdDv	0 2				

		From Centerline						From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	56515 aggbs	35	35	34	36	37 PBTB		44	42	43	41	40 PCCP		101	104	106	107	108
402230	56520 aggbs	37	36	37	37	37 PBTB		42	43	44	43	43 PCCP		108	106	104	106	107
Y-23	56525 aggbs	37	35	35	37	35 PBTB		38	40	41	40	42 PCCP		112	110	110	110	108
PCCP11	56530 aggbs	35	36	38	38	35 PBTB		44	43	42	42	48 PCCP		107	108	108	107	106
PBTB4	56535 aggbs	35	34	34	36	36 PBTB		43	43	42	43	43 PCCP		107	109	110	109	109
DGAB4	56540 aggbs	36	35	38	37	37 PBTB		43	44	42	43	46 PCCP		110	109	112	109	109
	56545 aggbs	34	31	29	35	35 PBTB		42	43	46	43	47 PCCP		112	110	110	109	107
	56550 aggbs	36	35	34	37	35 PBTB		43	44	43	43	47 PCCP		110	109	112	109	107
	56555 aggbs	37	36	36	37	37 PBTB		38	41	38	40	44 PCCP		113	110	113	112	109
	56560 aggbs	38	37	36	40	37 PBTB		43	43	43	41	42 PCCP		107	107	109	109	109
	56565 aggbs	37	37	36	38	36 PBTB		40	38	35	36	42 PCCP		110	113	116	115	113
	Avg	36					Avg	42					Avg	109				
	Min	29					Min	35					Min	101				
	Max	40					Max	48					Max	116				
	StdDv	02					StdDv	02					StdDv	03				

		From Centerline						From Centerline					
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12	
	56580 LCB	66	66	62	62	59 PCCP		103	103	107	107	109	
	56585 LCB	64	60	61	62	59 PCCP		107	107	106	104	108	
402190	56590 LCB	68	61	65	62	64 PCCP		102	107	107	107	108	
Y-19	56595 LCB	62	61	64	64	60 PCCP		110	108	108	108	109	
PCCP11	56600 LCB	64	61	62	62	60 PCCP		110	109	110	110	112	
LCB6	56605 LCB	60	61	61	60	60 PCCP		112	109	113	113	114	
	56610 LCB	65	62	64	64	62 PCCP		110	109	109	109	110	
	56615 LCB	62	62	61	62	64 PCCP		109	108	112	110	110	
	56620 LCB	60	59	60	59	60 PCCP		110	110	112	112	112	
	56625 LCB	60	60	59	60	60 PCCP		113	109	112	112	113	
	56630 LCB	61	61	58	60	61 PCCP		109	106	110	112	110	
	56635 LCB	60	56	58	59	58 PCCP		107	109	110	109	112	
	56640 LCB	59	58	58	56	55 PCCP		107	107	108	108	110	
	56645 LCB	62	61	60	61	56 PCCP		107	107	108	108	114	
	56650 LCB	65	64	62	64	61 PCCP		109	107	109	108	112	
	Avg	61					Avg	109					
	Min	55					Min	102					
	Max	68					Max	114					
	StdDv	02					StdDv	02					

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt.6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5666 5 LCB	6 1	6 1	5 8	6 1	5 9 PCCP		7 8	7 7	7 9	7 8	8 0
	5667 0 LCB	6 0	6 0	5 9	6 1	5 8 PCCP		7 8	7 7	7 7	7 7	7 8
	5667 5 LCB	6 0	6 2	5 8	5 9	5 9 PCCP		8 0	7 7	7 9	7 9	8 0
40217 0	5668 0 LCB	6 1	6 1	6 0	6 0	6 0 PCCP		8 2	7 9	8 2	8 2	8 2
Y-17	5668 5 LCB	6 0	6 0	5 8	5 9	5 8 PCCP		8 3	7 9	8 2	8 0	8 3
PCCP8	5669 0 LCB	6 2	5 9	5 8	5 9	5 8 PCCP		8 5	8 3	8 6	8 4	8 4
LCB6	5669 5 LCB	5 9	5 9	5 6	5 8	5 8 PCCP		8 5	8 3	8 6	8 4	8 5
	5670 5 LCB	5 9	5 9	5 8	5 8	5 6 PCCP		8 6	8 4	8 4	8 5	8 4
	5671 5 LCB	5 9	5 9	5 8	5 9	5 5 PCCP		8 4	8 0	8 3	8 3	8 4
	5672 0 LCB	6 0	6 2	5 9	5 9	5 9 PCCP		8 4	8 0	8 3	8 3	8 5
	5672 5 LCB	5 9	5 9	5 8	5 9	5 6 PCCP		8 4	8 3	8 4	8 2	8 4
	5673 0 LCB	6 0	6 0	6 0	5 9	5 9 PCCP		8 3	8 3	8 3	8 2	8 4
	Avg	5 9				Avg		8 2				
	Min	5 5				Min		7 7				
	Max	6 2				Max		8 6				
	StdDv	0 2				StdDv		0 3				

		From Centerline						From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt.3	Rt.6	Rt.9	Rt.12
	5674 5 aggbs	3 6	3 6	4 0	4 0	3 8 PBTB		4 1	3 8	3 6	3 7	4 0 PCCP		8 2	8 4	8 5	8 0	8 2
	5675 0 aggbs	4 4	3 8	4 1	3 5	4 0 PBTB		4 1	4 3	4 3	4 2	3 8 PCCP		7 9	7 4	7 7	7 8	8 0
40221 0	5675 5 aggbs	3 6	4 4	3 7	4 1	3 8 PBTB		4 1	3 7	3 6	3 6	4 3 PCCP		8 2	8 5	8 5	8 3	7 8
Y-21	5676 0 aggbs	6 1	5 0	3 8	4 0	4 3 PBTB		4 8	4 7	4 3	4 1	4 2 PCCP		7 2	7 1	7 6	7 7	7 7
PCCP8	5676 5 aggbs	3 7	3 8	3 8	4 0	4 1 PBTB		4 6	4 3	4 4	4 3	4 4 PCCP		7 7	7 7	7 6	7 6	7 6
PBTB4	5677 0 aggbs	4 2	4 2	4 2	4 3	4 2 PBTB		4 4	4 3	4 3	4 2	4 4 PCCP		7 4	7 6	7 7	7 7	7 6
DGAB4	5677 5 aggbs	4 1	3 7	4 1	3 8	4 1 PBTB		4 2	4 2	4 3	4 2	4 3 PCCP		7 9	7 9	7 7	7 8	7 9
	5678 0 aggbs	4 0	3 8	3 7	4 3	4 2 PBTB		4 3	4 3	4 3	4 1	4 2 PCCP		7 9	7 8	7 8	7 6	7 6
	5678 5 aggbs	3 8	3 6	4 0	4 2	3 6 PBTB		4 1	4 0	3 8	3 7	4 0 PCCP		8 0	8 3	8 4	8 3	8 4
	5679 0 aggbs	4 1	4 0	4 0	4 2	4 2 PBTB		4 0	3 8	4 0	3 7	4 0 PCCP		8 0	8 3	8 0	8 0	8 2
	5679 5 aggbs	4 0	4 0	4 1	4 2	3 6 PBTB		4 1	4 1	4 2	4 0	4 2 PCCP		7 8	7 8	7 7	7 8	8 0
	5680 0 aggbs	4 2	4 0	4 2	4 2	4 1 PBTB		4 1	3 8	3 8	3 7	3 8 PCCP		7 7	8 0	7 9	7 9	7 9
	Avg	4 0				Avg		4 1				Avg		7 9				
	Min	3 5				Min		3 6				Min		7 1				
	Max	6 1				Max		4 8				Max		8 5				
	StdDv	0 4				StdDv		0 3				StdDv		0 3				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	56815 aggbs	61	59	61	61	56 PCCP		78	77	76	74	80
	56820 aggbs	60	60	59	62	56 PCCP		78	78	79	76	83
402130	56825 aggbs	60	58	58	60	56 PCCP		79	79	79	78	82
Y-13	56830 aggbs	60	58	59	61	56 PCCP		92	91	90	85	90
PCCP8	56835 aggbs	60	56	60	61	58 PCCP		82	82	82	78	83
DGAB6	56840 aggbs	60	59	61	61	58 PCCP		82	80	80	76	82
	56845 aggbs	60	58	60	61	56 PCCP		82	79	79	77	80
	56850 aggbs	60	59	60	59	59 PCCP		83	80	80	78	80
	56855 aggbs	59	59	59	60	56 PCCP		84	82	79	78	83
	56860 aggbs	59	59	59	61	58 PCCP		83	82	82	79	83
	56865 aggbs	59	54	56	59	55 PCCP		83	84	84	79	83
	56870 aggbs	58	58	60	61	59 PCCP		85	83	82	80	79
	56875 aggbs	61	58	62	62	61 PCCP		84	84	82	80	83
	Avg	59					Avg	81				
	Min	54					Min	74				
	Max	62					Max	92				
	StdDv	02					StdDv	03				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt.12
	56880 aggbs	64	60	62	60	59 PCCP		82	83	80	80	82
	56885 aggbs	61	59	60	61	58 PCCP		82	84	83	83	83
402530	56890 aggbs	62	59	61	60	58 PCCP		80	84	82	83	84
B-31	56895 aggbs	65	64	62	64	58 PCCP		79	82	82	79	84
PCCP8	56900 aggbs	64	60	61	64	60 PCCP		84	86	84	80	83
DGAB6	56905 aggbs	59	59	60	60	58 PCCP		82	84	83	80	85
	56915 aggbs	61	59	59	61	56 PCCP		82	84	84	83	86
	56920 aggbs	62	60	62	61	58 PCCP		80	83	82	83	86
	56925 aggbs	61	59	58	58	58 PCCP		83	84	86	85	85
	56930 aggbs	61	60	61	61	59 PCCP		82	82	82	80	83
	56940 aggbs	62	60	64	64	59 PCCP		82	84	82	79	83
	56945 aggbs	62	61	62	61	55 PCCP		80	80	80	80	83
	56950 aggbs	65	61	62	60	54 PCCP		77	79	80	83	89
	Avg	60					Avg	82				
	Min	54					Min	77				
	Max	65					Max	89				
	StdDv	02					StdDv	02				

		From Centerline						From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5697 0 aggbs	41	40	38	37	36	PBTB	38	38	40	41	43	PCCP	86	85	85	83	83
	5697 5 aggbs	42	37	40	42	38	PBTB	38	42	41	42	44	PCCP	86	83	82	78	77
40254 0	5698 0 aggbs	42	37	40	40	37	PBTB	41	43	43	43	42	PCCP	82	82	80	80	82
B-35	5698 5 aggbs	49	40	41	41	38	PBTB	40	41	41	42	44	PCCP	84	84	83	79	80
PCCP8	5699 0 aggbs	41	40	40	41	36	PBTB	42	41	44	44	46	PCCP	79	80	77	76	78
PBTB4	5699 5 aggbs	40	38	40	41	37	PBTB	43	40	42	42	44	PCCP	82	85	80	79	82
DGAB4	5700 0 aggbs	40	37	37	40	37	PBTB	41	40	43	42	44	PCCP	82	83	79	78	7.8
	5700 5 aggbs	36	36	35	37	35	PBTB	47	43	46	47	47	PCCP	82	82	79	76	78
	5701 0 aggbs	38	37	36	37	36	PBTB	42	41	42	43	43	PCCP	80	84	82	79	83
	5701 5 aggbs	38	35	35	37	35	PBTB	42	42	42	42	46	PCCP	80	80	79	79	77
	5702 0 aggbs	38	36	36	37	36	PBTB	42	41	42	43	42	PCCP	83	84	83	80	82
	5702 5 nggbs	37	34	36	36	37	PBTB	44	42	41	41	44	PCCP	7.9	83	83	79	79
	5703 0 aggbs	37	36	36	37	37	PBTB	43	41	42	42	46	PCCP	82	84	83	82	77
	5703 5 aggbs	34	32	32	35	30	PBTB	44	43	42	43	47	PCCP	79	82	83	79	78
	5704 0 aggbs	34	35	34	36	37	PBTB	46	41	41	40	40	PCCP	83	83	84	84	84
	5704 5 aggbs	53	50	50	52	49	PBTB	46	46	46	47	49	PCCP	79	77	77	76	76
	5705 0 aggbs	42	42	40	43	43	PBTB	46	44	47	43	46	PCCP	96	95	94	92	92
	Avg	38					Avg	43					Avg	82				
	Min	30					Min	38					Min	76				
	Max	53					Max	49					Max	96				
	StdDv	04					StdDv	02					StdDv	04				

		From Centerline						From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5707 0 aggbs	46	44	43	46	43	PBTB	36	35	36	37	41	PCCP	116	118	115	11.3	112
	5707 5 aggbs	46	44	44	47	44	PBTB	36	36	35	35	40	PCCP	115	116	116	112	112
40255 0	5708 0 aggbs	46	43	46	47	42	PBTB	36	36	37	37	42	PCCP	118	116	115	112	109
B-36	5708 5 aggbs	44	42	44	46	46	PBTB	36	36	35	35	38	PCCP	110	108	108	106	106
PCCP11	5709 0 aggbs	46	42	46	46	46	PBTB	38	40	38	38	40	PCCP	104	104	104	102	102
PBTB4	5709 5 aggbs	46	43	44	44	44	PBTB	37	36	37	36	40	PCCP	108	109	107	104	104
DGAB4	5710 0 aggbs	44	42	43	44	43	PBTB	37	37	35	35	37	PCCP	108	109	109	106	107
	5710 5 aggbs	43	43	44	46	43	PBTB	40	41	38	37	42	PCCP	106	103	104	102	103
	5711 0 aggbs	43	42	43	44	43	PBTB	40	40	38	37	41	PCCP	106	104	104	103	103
	5711 5 aggbs	44	43	46	44	44	PBTB	37	38	38	38	41	PCCP	108	107	104	103	104
	Avg	44					Avg	38					Avg	108				
	Min	42					Min	35					Min	102				
	Max	47					Max	42					Max	118				
	StdDv	01					StdDv	02					StdDv	05				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	57130 aggbs	66	67	70	66	65 PCCP		108	103	103	102	103
	57135 aggbs	65	62	67	67	66 PCCP		108	108	104	102	104
	57140 aggbs	66	65	66	66	67 PCCP		108	106	106	102	106
40256 0	57150 aggbs	70	67	66	74	71 PCCP		102	102	103	95	103
B-32	57155 aggbs	70	67	67	68	65 PCCP		101	101	100	97	101
PCCP 11	57160 aggbs	71	67	70	68	68 PCCP		101	102	102	100	101
DGAB6	57165 aggbs	70	66	67	68	66 PCCP		100	100	101	98	100
	57175 aggbs	66	64	64	66	66 PCCP		103	102	102	100	101
	57180 aggbs	71	67	68	70	68 PCCP		98	103	101	100	102
	57185 aggbs	70	67	66	70	68 PCCP		102	102	104	100	103
	Avg	67				Avg		102				
	Min	62				Min		95				
	Max	74				Max		108				
	StdDv	02				StdDv		03				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	57200 BTB	43	42	41	48	50 PCCP		125	124	121	118	115
	57205 BTB	40	37	40	40	37 PCCP		127	126	127	126	127
40257 0	57210 BTB	43	41	41	41	41 PCCP		122	125	122	125	124
AZ-21	57215 BTB	38	37	40	40	40 PCCP		127	126	125	124	122
PCCP 12 5	57220 BTB	42	38	41	40	46 PCCP		125	125	124	125	122
BTB4	57225 BTB	40	36	38	38	40 PCCP		127	128	127	127	126
	57230 BTB	42	37	40	38	40 PCCP		127	127	128	127	127
	57240 BTB	43	38	40	41	43 PCCP		116	120	121	121	121
	57245 BTB	42	38	40	37	38 PCCP		126	128	128	131	130
	57250 BTB	42	40	41	40	41 PCCP		125	131	125	124	125
	57255 BTB	42	37	40	37	40 PCCP		124	125	124	126	125
	Avg	40				Avg		125				
	Min	36				Min		115				
	Max	50				Max		131				
	StdDv	03				StdDv		03				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5727 0 BTB	4 3	3 8	4 3	4 4	4 6	PCCP	11 2	11 4	11 0	10 9	10 6
	5727 5 BTB	4 1	3 6	3 7	4 0	3 5	PCCP	11 2	11 4	11 4	11 3	11 3
40258 0	5728 0 BTB	4 4	4 2	4 1	4 0	3 7	PCCP	10 8	11 0	11 0	11 3	11 3
AZ-22	5728 5 BTB	4 1	4 0	4 0	4 0	3 7	PCCP	11 3	11 0	11 2	11 0	11 3
PCCP11	5729 0 BTB	4 2	3 7	3 8	4 0	3 5	PCCP	11 2	11 5	11 5	11 4	11 5
BTB4	5729 5 BTB	4 3	3 8	4 2	3 8	3 8	PCCP	10 8	11 3	11 2	11 3	11 4
	5730 0 BTB	4 6	4 0	4 0	4 1	4 0	PCCP	10 8	11 0	11 2	11 0	11 0
	5730 5 BTB	4 1	3 8	3 8	4 0	4 1	PCCP	11 3	11 5	11 5	11 4	11 3
	5731 0 BTB	4 1	4 0	4 1	3 8	3 6	PCCP	11 3	11 5	11 5	11 6	11 9
	5731 5 BTB	4 1	3 7	3 8	4 0	3 7	PCCP	11 4	11 6	11 5	11 5	11 6
	5732 0 BTB	4 1	3 8	4 1	4 1	3 8	PCCP	11 3	11 4	11 3	11 3	11 5
	5732 5 BTB	4 3	3 8	3 8	4 1	4 3	PCCP	11 0	11 6	11 4	11 3	11 5
	Avg	4 0					Avg	11 3				
	Min	3 5					Min	10 6				
	Max	4 6					Max	11 9				
	StdDv	0 2					StdDv	0 2				

		From Centerline						From Centerline				
		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12		Rt 0	Rt 3	Rt 6	Rt 9	Rt 12
	5734 0 BTB	4 4	4 0	4 1	4 3	4 1	PCCP	8 0	8 5	8 4	8 3	8 3
	5734 5 BTB	4 3	3 8	4 1	4 1	4 1	PCCP	8 4	8 8	8 5	8 5	8 6
40259 0	5735 0 BTB	4 1	3 6	4 0	4 2	4 0	PCCP	8 4	8 6	8 5	8 3	8 3
AZ-23	5735 5 BTB	4 6	4 1	4 1	4 2	4 1	PCCP	8 4	8 5	8 5	8 3	8 4
PCCP8	5736 0 BTB	4 4	4 0	4 1	4 2	4 4	PCCP	8 2	8 5	8 3	8 3	8 3
BTB4	5736 5 BTB	4 7	4 2	4 0	4 2	4 2	PCCP	8 3	8 5	8 5	8 5	8 6
	5737 5 BTB	4 4	3 7	3 8	3 8	4 0	PCCP	8 3	8 6	8 8	8 6	8 6
	5738 0 BTB	3 8	3 4	3 5	3 7	4 0	PCCP	8 6	9 0	8 8	8 6	8 8
	5738 5 BTB	4 3	5 3	3 7	4 1	3 8	PCCP	8 3	7 3	8 6	8 4	8 6
	5739 5 BTB	4 2	3 5	3 6	3 6	3 6	PCCP	8 4	8 8	8 6	8 8	8 9
	Avg	4 0					Avg	8 5				
	Min	3 4					Min	7 3				
	Max	5 3					Max	9 0				
	StdDv	0 3					StdDv	0 3				

Table 1. Guide to completion of Construction Data Sheets for Primary Experiment SPS-2

SPS-2 CONSTRUCTION DATA SHEET	SECTION												
	PROJECT	1 (13)	2 (14)	3 (15)	4 (16)	5 (17)	6 (18)	7 (19)	8 (20)	9 (21)	10 (22)	11 (23)	12 (24)
1	✓												
2		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	✓												
4		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	✓												
8		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9		✓	✓	✓	✓					✓	✓	✓	✓
10										✓	✓	✓	✓
11										✓	✓	✓	✓
12										✓	✓	✓	✓
13										✓	✓	✓	✓
14										✓	✓	✓	✓
15		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
18		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
20		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
22		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
23		*	*	*	*	*	*	*	*	*	*	*	*
24		*	*	*	*	*	*	*	*	*	*	*	*
25		*	*	*	*	*	*	*	*	*	*	*	*
26		*	*	*	*	*	*	*	*	*	*	*	*
27	*	*	*	*	*	*	*	*	*	*	*	*	*

✓ - Data sheet must be completed for this test section

* - Data sheet must be completed as necessary

Table 2. Guide to completion of Construction Data Sheets for Supplemental Experiment SPS-2A

SPS-2 CONSTRUCTION DATA SHEET	SECTION						
	PROJECT	25 (31)	26 (32)	27 (33)	28 (34)	29 (35)	30 (36)
1	✓						
2		✓	✓	✓	✓	✓	✓
3	✓						
4		✓	✓	✓	✓	✓	✓
5		✓	✓	✓	✓	✓	✓
6		✓	✓	✓	✓	✓	✓
7	✓						
8		✓	✓	✓	✓	✓	✓
9		✓	✓				✓
10						✓	✓
11						✓	✓
12						✓	✓
13						✓	✓
14						✓	✓
15		✓	✓	✓	✓	✓	✓
16		✓	✓	✓	✓	✓	✓
18		✓	✓	✓	✓	✓	✓
19		✓	✓	✓	✓	✓	✓
20		✓	✓	✓	✓	✓	✓
21		✓	✓	✓	✓	✓	✓
22		✓	✓	✓	✓	✓	✓
23		*	*	*	*	*	*
24		*	*	*	*	*	*
25		*	*	*	*	*	*
26		*	*	*	*	*	*
27	*	*	*	*	*	*	*

✓ - Data sheet must be completed for this test section
* - Data sheet must be completed as necessary

SPS-2 CONSTRUCTION DATA SHEET 1 PROJECT IDENTIFICATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [__]

*1. DATE OF DATA COLLECTION OR UPDATE (Month/Year) [__/__]

*2. STATE HIGHWAY AGENCY (SHA) DISTRICT NUMBER [__.]

*3. COUNTY OR PARISH [___.]

4. FUNCTIONAL CLASS (SEE TABLE A.2, APPENDIX B) [__.]

*5. ROUTE SIGNING (NUMERIC CODE) [1.]
Interstate... 1 U.S.... 2 State... 3
Other... 4

*6. ROUTE NUMBER [___10.]

7. TYPE OF PAVEMENT (See Codes Below) ~~[__2.]~~

8. NUMBER OF THROUGH LANES (ONE DIRECTION) [2.]

*9. DATE OF CONSTRUCTION COMPLETION (Month/Year) [10/93]

*10. DATE OPENED TO TRAFFIC (Month/Year) [10/93]

11. CONSTRUCTION COSTS PER LANE MILE (In $1000) [_____.]

12. DIRECTION OF TRAVEL [1.]
East Bound... 1 West Bound... 2 North Bound... 3
South Bound... 4

PROJECT STARTING POINT LOCATION

*13. MILEPOINT [109.__]

*14. ELEVATION [_1100] msl

*15. LATITUDE [__° __' __ . __"]

*16. LONGITUDE [___° __' __ . __"]

17. ADDITIONAL LOCATION INFORMATION (SIGNIFICANT LANDMARKS): [Between Tonopah, AZ and AZ State Spur 85]

18. HPMS SAMPLE NUMBER (HPMS ITEM 28) [_____]

19. HPMS SECTION SUBDIVISION (HPMS ITEM 29) [__.]

VALID PAVEMENT TYPE CODES FOR SPS-2, SPS-2A, and SPS-2B

JPCP on unbound base	17
JRCP on unbound base	18
JPCP on Bituminous base	20
JRCP on Bituminous base	21
JPCP on Lean Concrete Base	23
JRCP on Lean Concrete Base	24

PREPARER R. Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA
SHEET 3
REFERENCE PROJECT STATION TABLE

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO. [__]

ORDER	*1 TEST SECTION ID NO	REFERENCE PROJECT STATION NUMBER *2 START	*3 END	*4 CUT-FILL[1] TYPE	STATION	
1	______	0 + 0 0	____ + __	__	__+__	
2	040261	5587 + 70	5593 + 85	__	__+__	
3	040214	5594 + 75	5600 + 90	__	__+__	
4	040222	5601 + 80	5607 + 95	__	__+__	
5	040218	5608 + 85	5615 + 90	__	__+__	
6	040220	5616 + 80	5625 + 95	__	__+__	
7	040224	5626 + 85	5633 + 30	__	__+__	
8	040216	5634 + 20	5640 + 20	__	__+__	
9	040215	5640 + 20	5650 + 10	__	__+__	
10	040223	5651 + 00	5656 + 55	__	__+__	
11	040219	5657 + 45	5665 + 25	__	__+__	
12	040217	5666 + 15	5673 + 20	__	__+__	
13	040221	5674 + 10	5680 + 25	__	__+__	
14	040213	5681 + 15	5687 + 75	__	__+__	
15	040262	5687 + 75	5695 + 22	__	__+__	
16	040263	5696 + 03	5705 + 48	__	__+__	
17	040264	5706 + 29	5711 + 69	__	__+__	
18	040265	5712 + 50	5718 + 71	__	__+__	
19	040266	5719 + 71	5725 + 86	__	__+__	
20	040267	5726 + 76	5732 + 81	__	__+__	

OLD Design numb... 040254 040256 040258

*5 INTERSECTIONS BETWEEN TEST SECTION ON THE PROJECT

ROUTE	PROJECT STATION NO.	RAMPS EXIT	RAMPS ENT	INTERSECTION STOP	INTERSECTION SIGNAL	INTERSECTION UNSIG
NONE	____+__	___	___	___	___	___
	____+__	___	___	___	___	___
	____+__	___	___	___	___	___

Note 1. Indicate the type of subgrade section the test section is located on:

Cut.... 1 Fill..... 2 At-Grade..... 3 Cut and Fill..... 4

If cut-fill transition is located in a test section, enter test section station of the cut-fill transition location.

21 040268 — 5733+81 to 5739+86 (040259)

22 040260 — 5740+86 to 5747+01 —

PREPARER R. Scott EMPLOYER NCE DATE 5/6/84

SPS-2 CONSTRUCTION DATA SHEET 7 CUT-FILL SECTION LOCATIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [____]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NUMBER [2]
		*2 START	*3 END	
1		0 + 0 0	+	
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

NOTES:

1. Indicate the type of subgrade section with one of the following:

   Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

* 1. LANE WIDTH (Feet) [14.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.]	[17.]
* 5. PAVED SHOULDER WIDTH (Feet)	[4.]	[8.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23.]
7. SHOULDER SURFACE THICKNESS (Inches)	[8.0]	[8.0]
8. SHOULDER BASE THICKNESS (Inches)	[6.0]	[6.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [_.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__.__]

12. SPACING OF LATERALS (Feet) [___.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]
2	[05]	[23]	[__5.9]	__5.4	__6.2	____.2
3	[03]	[04]	[__8.1]	__7.4	__9.2	____.3
4	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

DGAB

PCCP

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Szabo EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— 6.1	— — . —	— — . —	— 7.8
	— 3 6	— 5.9	— — . —	— — . —	— 7.7
	— 7 2	— 6.1	— — . —	— — . —	— 7.6
5681+50	1 0 8	— 6.1	— — . —	— — . —	— 7.4
	1 4 4	— 5.6	— — . —	— — . —	— 8.0
—+— —	— — 0	— 6.0	— — . —	— — . —	— 7.9
	— 3 6	— 5.8	— — . —	— — . —	— 7.9
5682+50	— 7 2	— 5.8	— — . —	— — . —	— 7.9
	1 0 8	— 6.0	— — . —	— — . —	— 7.8
	1 4 4	— 5.6	— — . —	— — . —	— 8.2
—+— —	— — 0	— 6.0	— — . —	— — . —	— 8.2
	— 3 6	— 5.6	— — . —	— — . —	— 8.2
5683+50	— 7 2	— 6.0	— — . —	— — . —	— 8.2
	1 0 8	— 6.1	— — . —	— — . —	— 7.8
	1 4 4	— 5.8	— — . —	— — . —	— 8.3
—+— —	— — 0	— 6.0	— — . —	— — . —	— 8.2
	— 3 6	— 5.8	— — . —	— — . —	— 7.9
5684+50	— 7 2	— 6.0	— — . —	— — . —	— 7.9
	1 6 8	— 6.1	— — . —	— — . —	— 7.7
	1 4 4	— 5.6	— — . —	— — . —	— 8.0
—+— —	— — 0	— 5.9	— — . —	— — . —	— 8.4
	— 3 6	— 5.9	— — . —	— — . —	— 8.2
5685+50	— 7 2	— 5.9	— — . —	— — . —	— 7.9
	1 0 8	— 6.0	— — . —	— — . —	— 7.8
	1 4 4	— 5.6	— — . —	— — . —	— 8.3
—+— —	— — 0	— 5.9	— — . —	— — . —	— 8.3
	— 3 6	— 5.4	— — . —	— — . —	— 8.4
5686+50	— 7 2	— 5.6	— — . —	— — . —	— 8.4
	1 0 8	— 5.9	— — . —	— — . —	— 7.9
	1 4 4	— 5.5	— — . —	— — . —	— 8.3
—+— —	— — 0	— 6.1	— — . —	— — . —	— 8.4
	— 3 6	— 5.8	— — . —	— — . —	— 8.4
5687+50	— 7 2	— 6.2	— — . —	— — . —	— 8.2
	1 0 8	— 6.2	— — . —	— — . —	— 8.0
	1 4 4	— 6.1	— — . —	— — . —	— 8.3
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N/A]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

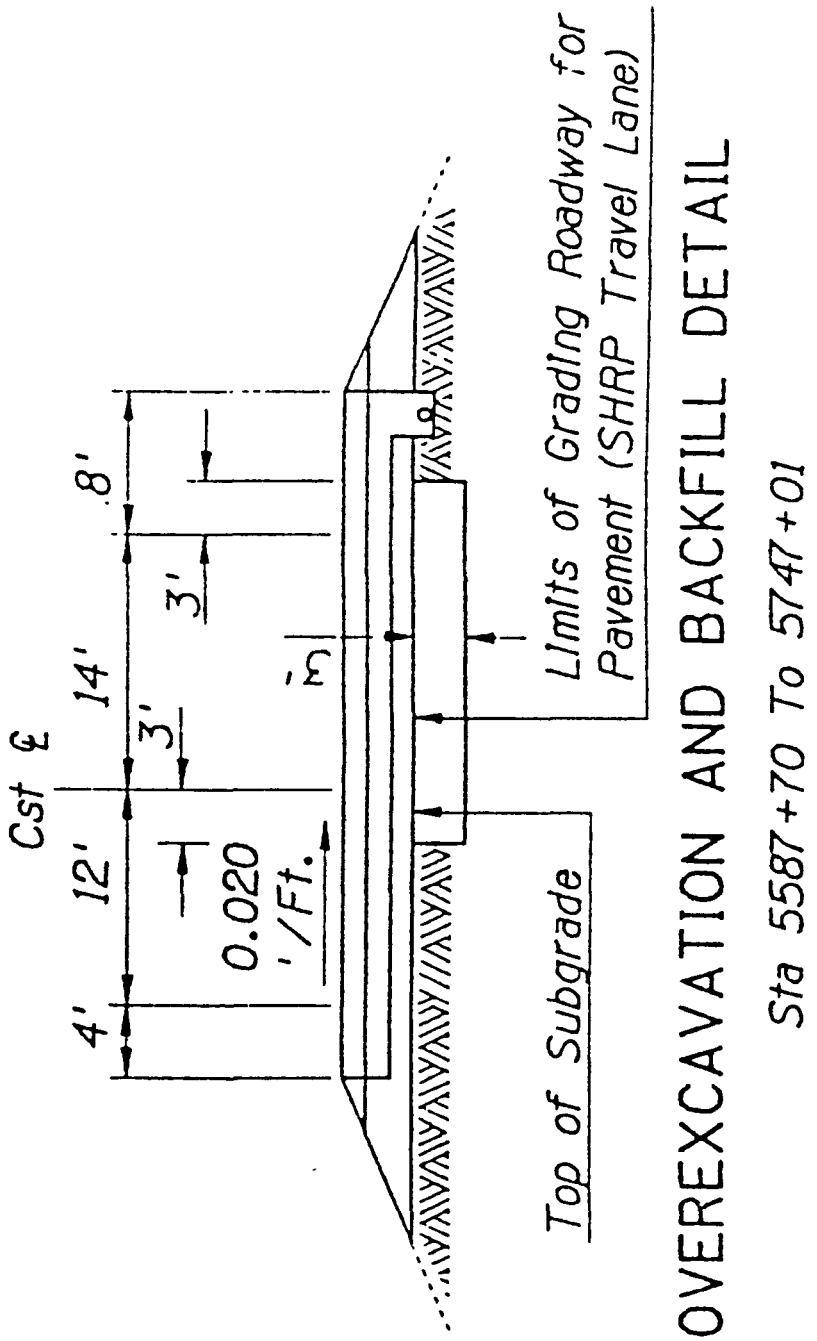
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]



PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 6.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

_____

_____

_____

PREPARER R. Szrot EMPLOYER NCK DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
- Round Dowels..... 1
- Aggregate Interlock..... 2
- Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.25]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
- Paint and/or Grease..... 1
- Plastic..... 2
- Monel..... 3
- Stainless Steel..... 4
- Epoxy..... 5
- Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
- Preplaced on Baskets..... 1
- Mechanically Installed..... 2
- Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE, WZCO DATE 9/9/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [82] * TEST SECTION NO. [13]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.4]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 MIX

*2. Coarse Aggregate (Pounds)..... [1939.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [400.]

*5. Water (Pounds)..... [232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

PREPARER R. Szmot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67__]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65__]

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-09-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-09-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 3]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) S.I.P. Feet, Bel

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [13]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____	8		

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____	7		

PREPARER Brian Burnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [1 3]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [___]

3. PROFILE INDEX (Inches/Mile) [___ ___]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [___]

5. HEIGHT OF BLANKING BAND (Inches) [___.___ ___]

6. CUTOFF HEIGHT (Inches) [___.___ ___]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

* 1. LANE WIDTH (Feet) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]	[19.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[04.]	[10.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[8.0]	[8.0]
8.	SHOULDER BASE THICKNESS (Inches)	[6.0]	[6.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [_.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__.__]

12. SPACING OF LATERALS (Feet) [___.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]				
2	[05]	[23]	[__6.1]	__5.4	__6.6	___.2
3	[03]	[04]	[__8.5]	__8.2	__9.4	___.2
4	[__ __]	[__ __]	[___._]	___._	___._	___._
5	[__ __]	[__ __]	[___._]	___._	___._	___._
6	[__ __]	[__ __]	[___._]	___._	___._	___._
7	[__ __]	[__ __]	[___._]	___._	___._	___._
8	[__ __]	[__ __]	[___._]	___._	___._	___._
9	[__ __]	[__ __]	[___._]	___._	___._	___._
10	[__ __]	[__ __]	[___._]	___._	___._	___._

DGAB

PCCP

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From & OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
_+_ _ 5595+0	0 36 72 108 144	6.0 5.4 6.0 6.0 5.4	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	8.8 9.1 8.8 8.8 8.8
_+_ _ 5596+0	0 36 72 108 144	6.4 6.0 5.8 6.0 5.6	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	8.4 8.5 8.8 8.5 8.3
_+_ _ 5597+0	0 36 72 108 144	6.4 6.1 6.2 6.1 5.6	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	8.4 8.5 8.4 8.3 8.5
_+_ _ 5598+0	0 36 72 108 144	6.6 6.1 6.2 6.2 6.2	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	8.3 8.5 8.4 8.3 8.5
_+_ _ 5600+0	0 36 72 108 144	6.2 6.1 6.2 6.1 5.8	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	8.4 8.5 8.4 8.4 8.5
_+_ _ 5601+0	0 36 72 108 144	5.9 6.0 6.0 5.9 6.1	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	9.4 9.2 9.2 9.1 8.9
_+_ _	_ _ _ _ _ _ _ _ _ _ _ _ _ _ _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _	_ _ . _ _ _ . _ _ _ . _ _ _ . _ _ _ . _
LAYER NUMBER[1]		_ _	_ _	_ _	_ _

[1] from Construction Data Sheet 4

PREPARER R. Serst EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

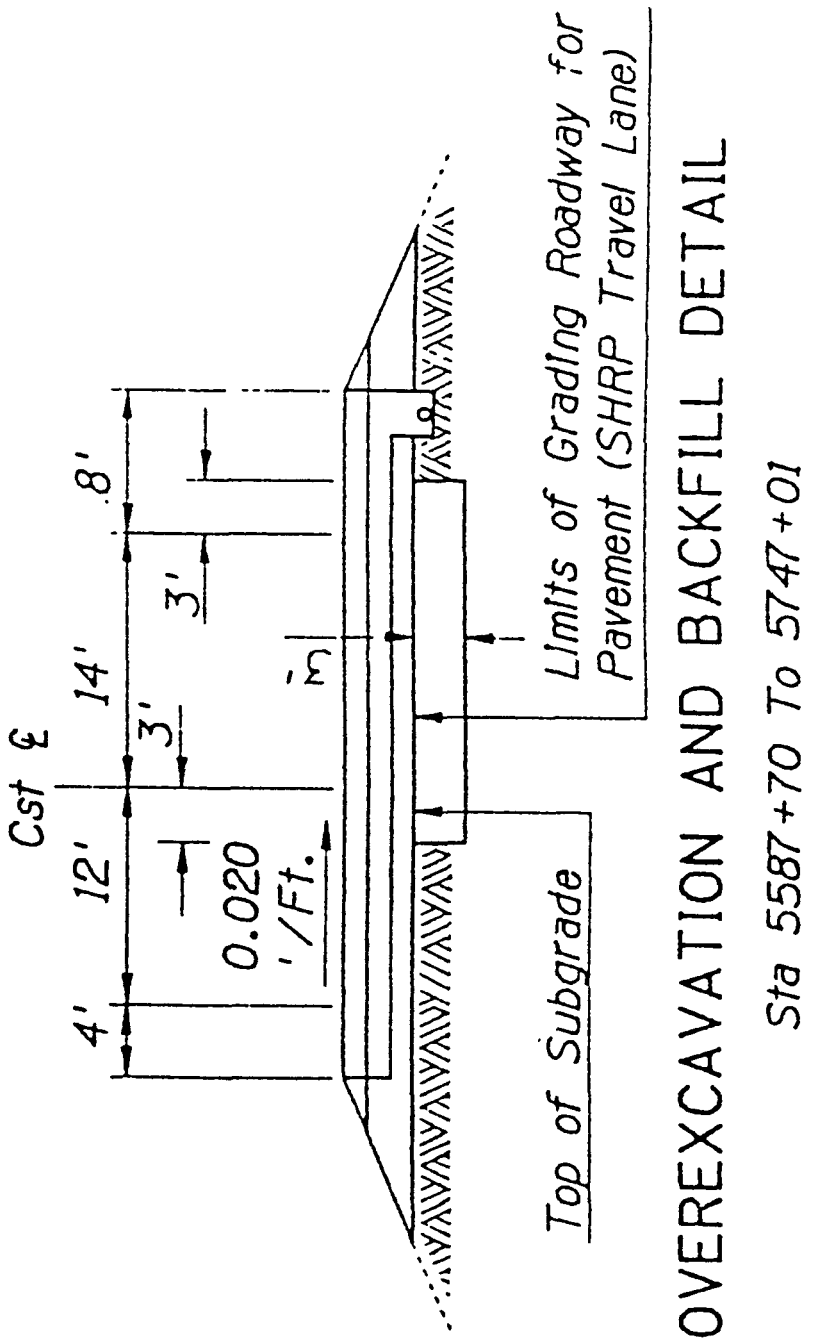
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Scott EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R Szpot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-28-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__6.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Initial placement looked "Rocky" — sample tests failed — sand was added and reprocessed — tests passed afterwards

PREPARER R. Szot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.25]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Ravitt EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [_10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [_.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [_.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.3]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [_.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Burnett EMPLOYER NCE DATE 10/12/93

February 1992

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 900 mix

*2. Coarse Aggregate (Pounds)..... [1826.]

*3. Fine Aggregate (Pounds)..... [1207.]

*4. Cement (Pounds)..... [799.]

*5. Water (Pounds)..... [292.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[0.8]	40 oz/cy	[___.__]
*9.	ADMIXTURE #2	[__.__]		[___.__]
*10.	ADMIXTURE #3	[__.__]		[___.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

PREPARED D Smith NCE 7/22/91

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [0E] * TEST SECTION NO. [14]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

900

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	72
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67__]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65__]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-15-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-15-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__2]	[__9]
Plant 2	_____	[___]	[___]
Plant 3	_____	[___]	[___]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [4]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____			8*

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____			7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [14]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [___]

3. PROFILE INDEX (Inches/Mile) [___ ___]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [___]

5. HEIGHT OF BLANKING BAND (Inches) [___.___ ___]

6. CUTOFF HEIGHT (Inches) [___.___ ___]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER EMPLOYER DATE

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

* 1. LANE WIDTH (Feet) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.]	[19.]
* 5. PAVED SHOULDER WIDTH (Feet)	[04.]	[10.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23]
7. SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8. SHOULDER BASE THICKNESS (Inches)	[_6.0]	[_6.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [_.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__ __._]

12. SPACING OF LATERALS (Feet) [__ __ __.]

PREPARER R Sebot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]	
2	[05]	[23]	[__6.1]	__4.8	__7.1	___.3	DGAB
3	[03]	[04]	[_11.2]	_10.4	_11.8	___.2	PCCP
4	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__	
5	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__	
6	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__	
7	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__	
8	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__	
9	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__	
10	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	0	6.2	—.—	—.—	11.4
	36	6.1	—.—	—.—	11.5
	72	5.6	—.—	—.—	11.8
5642+0	108	6.2	—.—	—.—	11.2
	144	5.9	—.—	—.—	11.6
—+— —	0	6.2	—.—	—.—	11.3
	36	6.2	—.—	—.—	11.3
	72	6.0	—.—	—.—	11.3
5643+0	108	6.4	—.—	—.—	11.0
	144	5.8	—.—	—.—	11.5
—+— —	0	6.2	—.—	—.—	11.4
	36	6.1	—.—	—.—	11.4
	72	6.2	—.—	—.—	11.3
5645+0	108	6.2	—.—	—.—	11.3
	144	5.8	—.—	—.—	11.5
—+— —	0	6.5	—.—	—.—	11.4
	36	6.1	—.—	—.—	11.5
	72	6.0	—.—	—.—	11.4
5646+0	108	6.5	—.—	—.—	11.3
	144	6.4	—.—	—.—	11.5
—+— —	0	6.4	—.—	—.—	11.3
	36	6.1	—.—	—.—	11.3
	72	6.2	—.—	—.—	11.2
5648+0	108	6.5	—.—	—.—	11.2
	144	6.1	—.—	—.—	11.3
—+— —	0	6.5	—.—	—.—	11.2
	36	6.4	—.—	—.—	11.0
	72	6.5	—.—	—.—	11.0
5649+0	108	7.1	—.—	—.—	10.4
	144	6.0	—.—	—.—	11.5
—+— —	0	6.5	—.—	—.—	11.4
	36	6.4	—.—	—.—	11.4
	72	6.5	—.—	—.—	11.5
5650+0	108	6.5	—.—	—.—	11.5
	144	6.6	—.—	—.—	11.5
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. Szot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

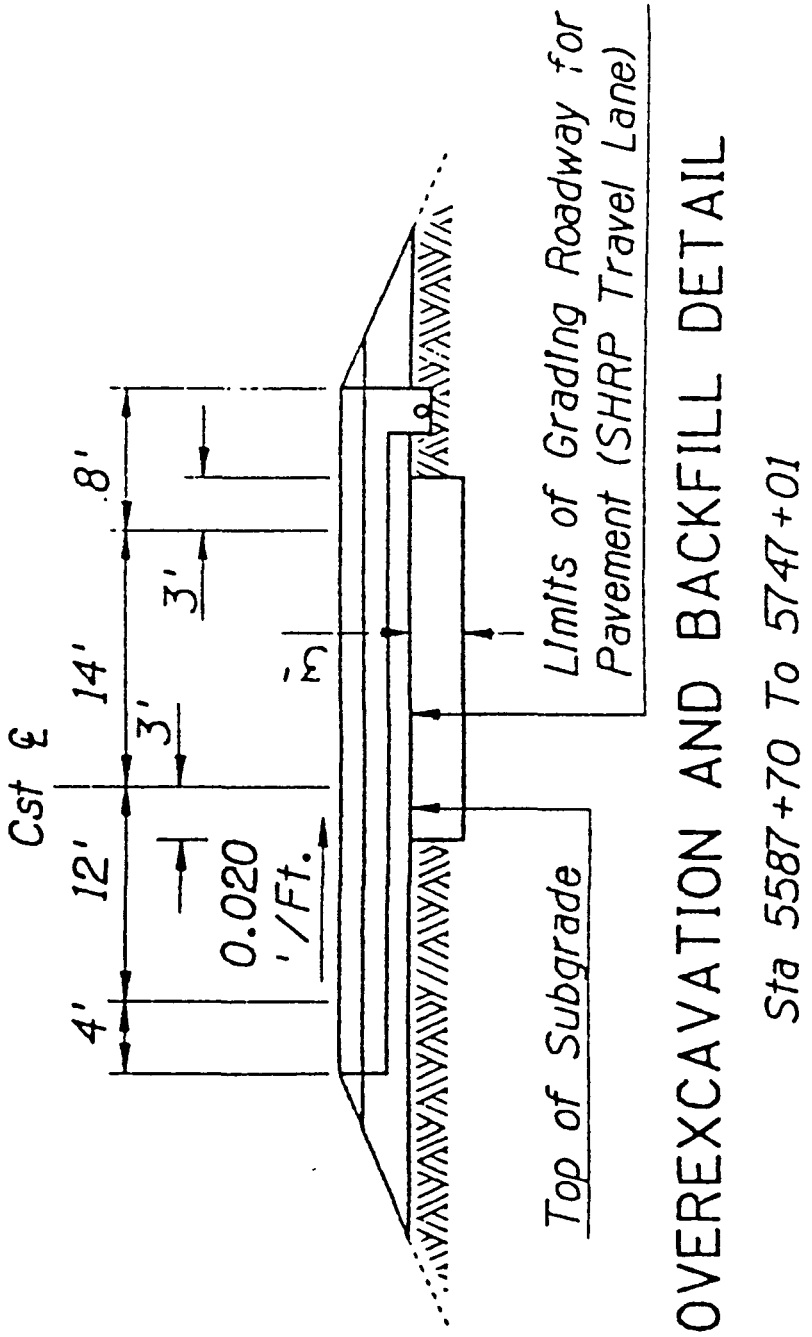
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R SZROT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [02-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 6.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__15.0]

3. (RANDOM JOINT SPACING, IF ANY:
_____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   Round Dowels..... 1
   Aggregate Interlock..... 2
   Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   Paint and/or Grease..... 1
   Plastic..... 2
   Monel..... 3
   Stainless Steel..... 4
   Epoxy..... 5
   Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   Preplaced on Baskets..... 1
   Mechanically Installed..... 2
   Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.4]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Bruce Brandt EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1938.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [_400.]

*5. Water (Pounds)..... [_232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100._]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___._]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___._]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___ ___.__]
12.	Coarse	[__ __]	[___ ___.__]
13.	Coarse	[__ __]	[___ ___.__]
14.	Coarse and Fine	[__ __]	[___ ___.__]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__ __.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer — ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67 __]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65 __]

PREPARER R Sera EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-13-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-13-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 3]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [15]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]
   Membrane Curing Compound..... 1 Burlap-Polyethylene Blanket... 5
   Burlap Curing Blankets..... 2 Cotton Mat Curing..... 6
   Waterproof Paper Blankets..... 3 Hay..... 7
   White Polyethylene Sheeting... 4
   Other (Specify)_____ 8*

4. TEXTURING [1]
   Tine..... 1 Grooved Float..... 4
   Broom..... 2 Astro Turf..... 5
   Burlap Drag..... 3 None..... 6
   Other (Specify)_____ 7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [C2] * TEST SECTION NO. [15]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

* 1. LANE WIDTH (Feet) [14.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]	[17.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[4.]	[8.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8.	SHOULDER BASE THICKNESS (Inches)	[6.0]	[6.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [_.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__.__]

12. SPACING OF LATERALS (Feet) [___.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]				
2	[05]	[23]	[__6.2]	__5.0	__6.7	___.3
3	[03]	[04]	[_11.2]	_10.7	_11.5	___.2
4	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
5	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
6	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
7	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
8	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
9	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
10	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__

DGAB
PCCP

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. SZOST EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
_+_ _	0	6.5	_._	_._	11.0
	36	6.1	_._	_._	11.2
5635+0	72	6.1	_._	_._	11.2
	108	6.2	_._	_._	11.0
	144	6.0	_._	_._	11.3
_+_ _	0	6.5	_._	_._	10.9
	36	6.6	_._	_._	11.0
5636+0	72	6.4	_._	_._	11.2
	108	6.2	_._	_._	10.8
	144	6.1	_._	_._	10.9
_+_ _	0	6.4	_._	_._	11.3
	36	6.2	_._	_._	11.0
5637+0	72	6.2	_._	_._	11.2
	108	6.4	_._	_._	11.3
	144	5.9	_._	_._	11.4
_+_ _	0	6.2	_._	_._	11.2
	36	6.4	_._	_._	11.2
5638+0	72	6.4	_._	_._	11.2
	108	6.2	_._	_._	11.3
	144	5.5	_._	_._	11.4
_+_ _	0	6.4	_._	_._	11.0
	36	6.2	_._	_._	11.0
5639+0	72	6.4	_._	_._	11.0
	108	6.4	_._	_._	11.0
	144	6.1	_._	_._	11.3
_+_ _	0	6.1	_._	_._	11.4
	36	6.2	_._	_._	11.3
5640+0	72	6.1	_._	_._	11.3
	108	6.5	_._	_._	10.9
	144	5.9	_._	_._	11.2
_+_ _		_._	_._	_._	_._
		_._	_._	_._	_._
		_._	_._	_._	_._
		_._	_._	_._	_._
		_._	_._	_._	_._
LAYER NUMBER[1]		__	__	__	__

[1] from Construction Data Sheet 4

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [1 16]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

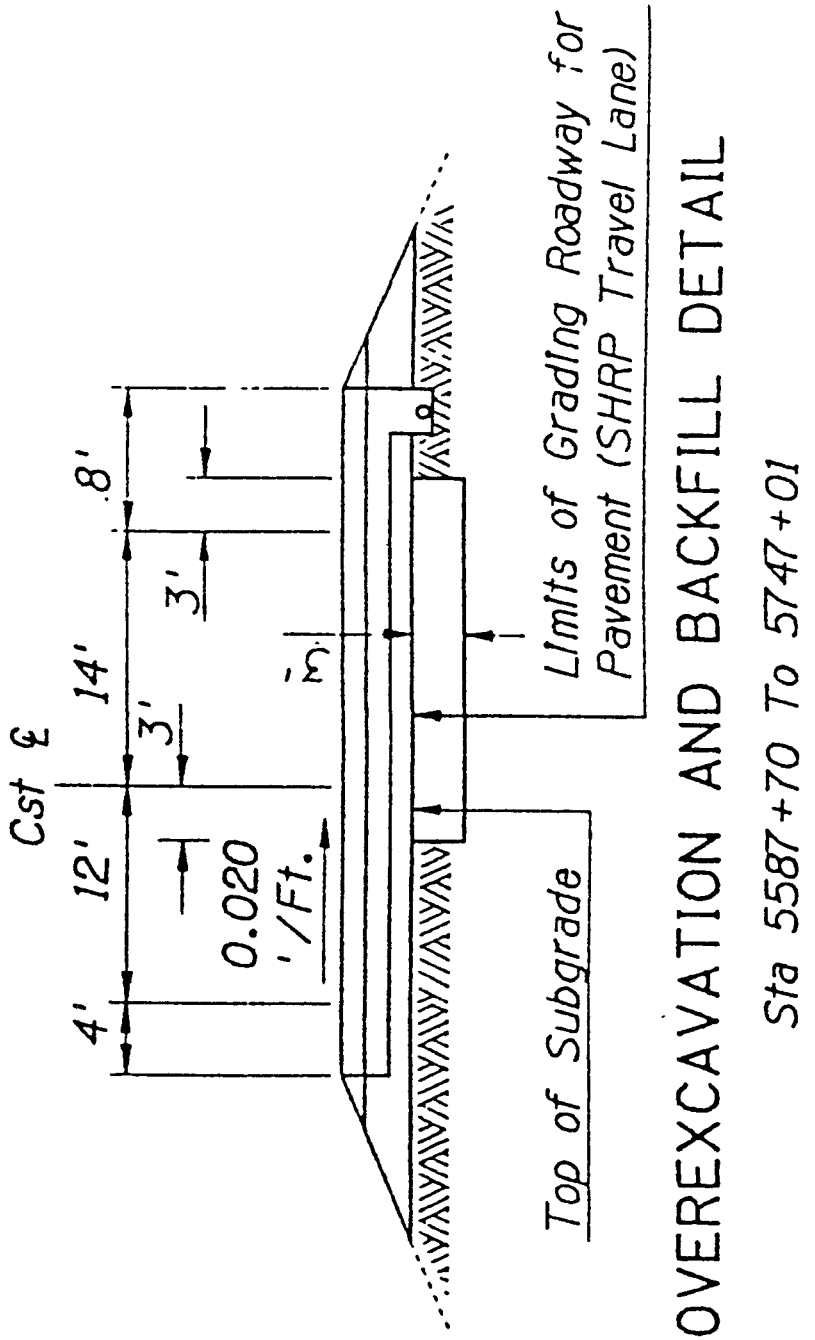
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Szmal EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 6.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

_____

_____

_____

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.6]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
- Round Dowels..... 1
- Aggregate Interlock..... 2
- Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
- Paint and/or Grease..... 1
- Plastic..... 2
- Monel..... 3
- Stainless Steel..... 4
- Epoxy..... 5
- Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
- Preplaced on Baskets..... 1
- Mechanically Installed..... 2
- Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ 1 1.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [29.9]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Bruce Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 900 MIF

*2. Coarse Aggregate (Pounds)..... [1826.]

*3. Fine Aggregate (Pounds)..... [1207.]

*4. Cement (Pounds)..... [__799.]

*5. Water (Pounds)..... [__292.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__ __.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[0.8]	40 oz/cy	[__ __ __.__]
*9.	ADMIXTURE #2	[__.__]		[__ __ __.__]
*10.	ADMIXTURE #3	[__.__]		[__ __ __.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __.__]
12.	Coarse	[__ __]	[__ __ __.__]
13.	Coarse	[__ __]	[__ __ __.__]
14.	Coarse and Fine	[__ __]	[__ __ __.__]

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 900 [__]

COMPOSITION OF COARSE AGGREGATE 900 MIX	TYPE	PERCENT
* 2. #57 Pioneer 3/4" / Salt River	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE (SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9) [__.]

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. ASTM Hassayampa / Palmer	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	97
No. 10....	87
No. 16....	72
No. 30....	54
No. 40....	38
No. 50....	23
No. 30....	___
No. 00...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R. SZOT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-13-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-13-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__1]	[__5]
Plant 2		[___]	[___]
Plant 3		[___]	[___]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound	1	Burlap-Polyethylene Blanket	5
Burlap Curing Blankets	2	Cotton Mat Curing	6
Waterproof Paper Blankets	3	Hay	7
White Polyethylene Sheeting	4		
Other (Specify)_____	8		

4. TEXTURING [1]

Tine	1	Grooved Float	4
Broom	2	Astro Turf	5
Burlap Drag	3	None	6
Other (Specify)_____	7		

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [16]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [___]

3. PROFILE INDEX (Inches/Mile) [___ ___]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [___]

5. HEIGHT OF BLANKING BAND (Inches) [___.___ ___]

6. CUTOFF HEIGHT (Inches) [___.___ ___]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [1 7]

* 1. LANE WIDTH (Feet) [1 4.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[1 3.]	[1 7.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[4.]	[8.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[3 8.]	[3 8.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[8. 0]	[8. 0]
8.	SHOULDER BASE THICKNESS (Inches)	[6. 0]	[6. 0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [_.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [_ _._]

12. SPACING OF LATERALS (Feet) [_ _ _.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]	
2	[05]	[38]	[_5.9]	_5.5	_6.2	_.2	LCB
3	[03]	[04]	[_8.2]	_7.7	_8.6	_.3	PCCP
4	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
5	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
6	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
7	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
8	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
9	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
10	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From & OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— — . —	— — . —	— 6 . 1	— 7 . 8
	— 3 6	— — . —	— — . —	— 6 . 1	— 7 . 7
	— 7 2	— — . —	— — . —	— 5 . 8	— 7 . 9
5666+50	1 0 8	— — . —	— — . —	— 6 . 1	— 7 . 8
	1 4 4	— — . —	— — . —	— 5 . 9	— 8 . 0
—+— —	— — 0	— — . —	— — . —	— 6 . 0	— 8 . 0
	— 3 6	— — . —	— — . —	— 6 . 2	— 7 . 7
	— 7 2	— — . —	— — . —	— 5 . 8	— 7 . 9
5667+50	1 0 8	— — . —	— — . —	— 5 . 9	— 7 . 9
	1 4 4	— — . —	— — . —	— 5 . 9	— 8 . 0
—+— —	— — 0	— — . —	— — . —	— 6 . 0	— 8 . 3
	— 3 6	— — . —	— — . —	— 6 . 0	— 7 . 9
	— 7 2	— — . —	— — . —	— 5 . 8	— 8 . 2
5668+50	1 0 8	— — . —	— — . —	— 5 . 9	— 8 . 0
	1 4 4	— — . —	— — . —	— 5 . 8	— 8 . 3
—+— —	— — 0	— — . —	— — . —	— 5 . 9	— 8 . 5
	— 3 6	— — . —	— — . —	— 5 . 9	— 8 . 3
	— 7 2	— — . —	— — . —	— 5 . 6	— 8 . 6
5669+50	1 0 8	— — . —	— — . —	— 5 . 8	— 8 . 4
	1 4 4	— — . —	— — . —	— 5 . 8	— 8 . 5
—+— —	— — 0	— — . —	— — . —	— 5 . 9	— 8 . 6
	— 3 6	— — . —	— — . —	— 5 . 9	— 8 . 4
	— 7 2	— — . —	— — . —	— 5 . 8	— 8 . 4
5670+50	1 0 8	— — . —	— — . —	— 5 . 8	— 8 . 5
	1 4 4	— — . —	— — . —	— 5 . 6	— 8 . 4
—+— —	— — 0	— — . —	— — . —	— 5 . 9	— 8 . 4
	— 3 6	— — . —	— — . —	— 5 . 9	— 8 . 8
	— 7 2	— — . —	— — . —	— 5 . 8	— 8 . 3
5671+50	1 0 8	— — . —	— — . —	— 5 . 9	— 8 . 3
	1 4 4	— — . —	— — . —	— 5 . 5	— 8 . 4
—+— —	— — 0	— — . —	— — . —	— 5 . 9	— 8 . 4
	— 3 6	— — . —	— — . —	— 5 . 9	— 8 . 3
	— 7 2	— — . —	— — . —	— 5 . 8	— 8 . 4
5672+50	1 0 8	— — . —	— — . —	— 5 . 9	— 8 . 2
	1 4 4	— — . —	— — . —	— 5 . 6	— 8 . 4
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. SZROT EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [12]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

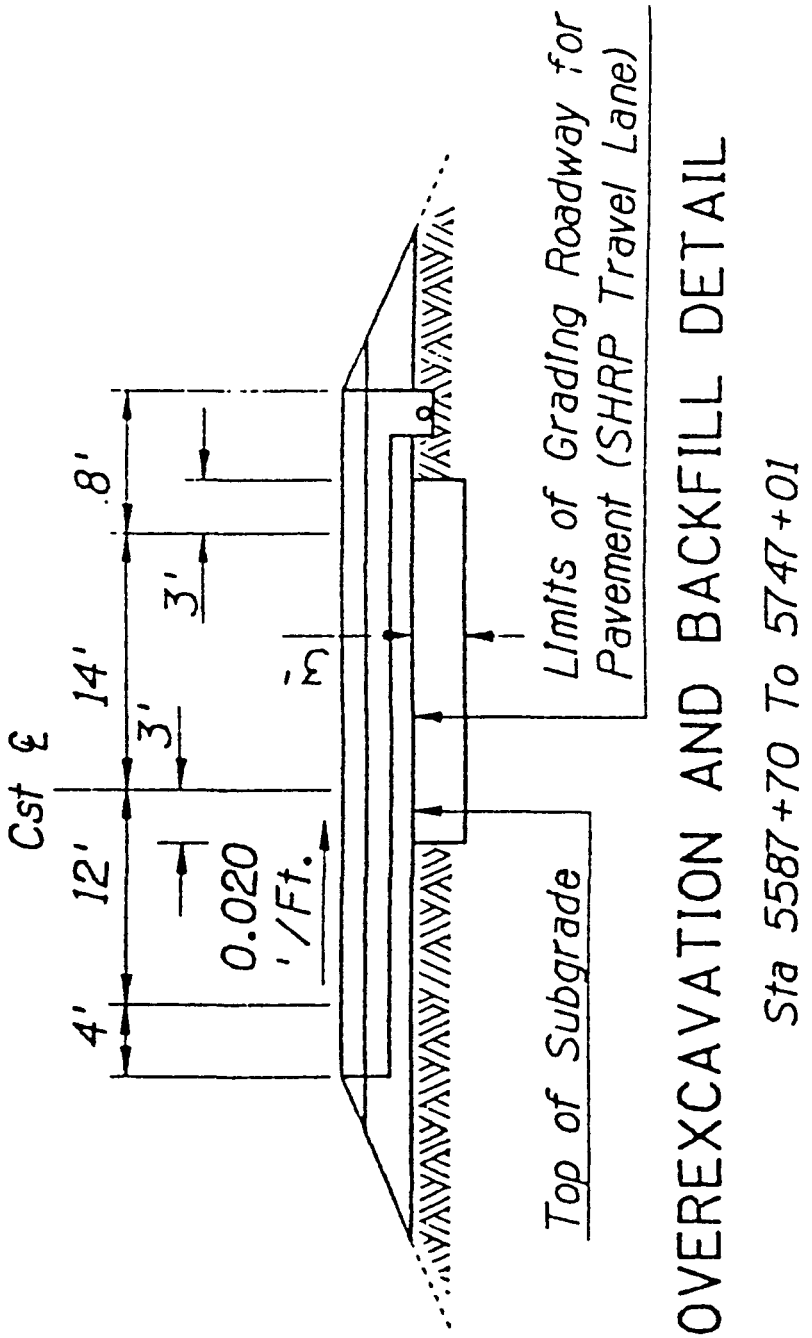
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Szmt EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R Scrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.25]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__N__.__]

3. (RANDOM JOINT SPACING, IF ANY:
_____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [N]
Round Dowels..... 1
Aggregate Interlock..... 2
Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [__.N__]

* 7. DOWEL SPACING (Inches) [N__.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__N.__]

9. DOWEL LENGTH (Inches) [N__.]

10. DOWEL COATING [N]
Paint and/or Grease..... 1
Plastic..... 2
Monel..... 3
Stainless Steel..... 4
Epoxy..... 5
Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [N]
Preplaced on Baskets..... 1
Mechanically Installed..... 2
Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [N]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER R. SZOT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [31.3]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Bruce Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [12]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [N]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [1]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [N]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.N__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__N__.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [N]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

N

8. WIDTH, (Inches)..... [__.__]

9. DEPTH, (Inches)..... [__.__]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.__]

11. DEPTH, (Inches)..... [__.__]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [__.__]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [__.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [__.__]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.__]

16. DEPTH, (Inches)..... [__.N__]

PREPARER R Senst EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [1 7]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1 9 3 9.]

*3. Fine Aggregate (Pounds)..... [1 2 8 5.]

*4. Cement (Pounds)..... [_ 4 0 0.]

*5. Water (Pounds)..... [_ 2 3 2.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [4 2]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [_ _.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[1 0 0._]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[_ _ _._]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[_ _ _._]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[_ _]	[_ _ _._]
12.	Coarse	[_ _]	[_ _ _._]
13.	Coarse	[_ _]	[_ _ _._]
14.	Coarse and Fine	[_ _]	[_ _ _._]

PREPARER D. Grant EXPLORER [illegible] [illegible]

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [12]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD)

*2. Coarse Aggregate (Pounds)..... [3345.]

*3. Fine Aggregate (Pounds)..... [___0.]

*4. Cement (Pounds)..... [_234.]

*5. Water (Pounds)..... [_250.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[_50._]
*9.	ADMIXTURE #2	[0.8]	5.5 oz/cy	[___._]
*10.	ADMIXTURE #3	[0.1]	3.5 oz/cy	[___._]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___ ___._]
12.	Coarse	[__ __]	[___ ___._]
13.	Coarse	[__ __]	[___ ___._]
14.	Coarse and Fine	[__ __]	[___ ___._]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE (SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9) [__.]

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

		TYPE	PERCENT
	COMPOSITION OF COARSE AGGREGATE		
* 2.	ABC Palmer/Hassayampa	[2]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__ __.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

		TYPE	PERCENT
	COMPOSITION OF FINE AGGREGATE		
* 6.	N/A	[__]	[___.]
* 7.		[__]	[___.]
* 8.		[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	89
5/8".....	___
1/2".....	62
3/8".....	53
No. 4.....	43

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	38
No. 10....	36
No. 16....	30
No. 30....	21
No. 40....	16
No. 50....	12
No. 80....	___
No. 100...	8
No. 200...	6.2

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.65_]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [_.___]

PREPARER R. Scrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-10-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-10-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 3]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) LCB [08-24-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-24-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [_]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	TANNER	[_ _ 1]	[_ _ 4]
Plant 2		[_ _ _]	[_ _ _]
Plant 3		[_ _ _]	[_ _ _]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP-3000

7. SPREADER TYPE (if applicable) Belt Driven - Side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_3.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		

   Other (Specify)_____ 8*

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6

   Other (Specify)_____ 7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

LCB

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____	8		

4. TEXTURING [3]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____	7		

PREPARER R. SCHUT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [___]

3. PROFILE INDEX (Inches/Mile) [___ ___]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [___]

5. HEIGHT OF BLANKING BAND (Inches) [___.___ ___]

6. CUTOFF HEIGHT (Inches) [___.___ ___]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope.. 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER EMPLOYER DATE

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

* 1. LANE WIDTH (Feet) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.]	[19.]
* 5. PAVED SHOULDER WIDTH (Feet)	[04.]	[10.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[38.]	[38.]
7. SHOULDER SURFACE THICKNESS (Inches)	[8.0]	[8.0]
8. SHOULDER BASE THICKNESS (Inches)	[6.0]	[6.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [_.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__.__]

12. SPACING OF LATERALS (Feet) [___.]

PREPARER R Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]					
2	[05]	[38]	[_6.2]	_5.6	_7.0	_.3	4CB
3	[03]	[04]	[_8.4]	_8.0	_8.8	_.2	PCCP
4	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
5	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
6	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
7	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
8	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
9	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	
10	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER K. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM & OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	0	— — . —	— — . —	— 6 . 4	— 8 . 3
	36	— — . —	— — . —	— 6 . 4	— 8 . 0
	72	— — . —	— — . —	— 6 . 2	— 8 . 2
5609+50	108	— — . —	— — . —	— 6 . 1	— 8 . 3
	144	— — . —	— — . —	— 6 . 0	— 8 . 3
—+— —	0	— — . —	— — . —	— 6 . 2	— 8 . 6
	36	— — . —	— — . —	— 6 . 5	— 8 . 4
	72	— — . —	— — . —	— 6 . 0	— 8 . 6
5610+50	108	— — . —	— — . —	— 5 . 9	— 8 . 5
	144	— — . —	— — . —	— 5 . 9	— 8 . 6
—+— —	0	— — . —	— — . —	— 6 . 2	— 8 . 5
	36	— — . —	— — . —	— 6 . 1	— 8 . 4
	72	— — . —	— — . —	— 6 . 0	— 8 . 5
5611+50	108	— — . —	— — . —	— 5 . 8	— 8 . 8
	144	— — . —	— — . —	— 5 . 6	— 8 . 6
—+— —	0	— — . —	— — . —	— 6 . 5	— 8 . 3
	36	— — . —	— — . —	— 6 . 6	— 8 . 2
	72	— — . —	— — . —	— 6 . 1	— 8 . 5
5612+50	108	— — . —	— — . —	— 6 . 1	— 8 . 4
	144	— — . —	— — . —	— 6 . 0	— 8 . 5
—+— —	0	— — . —	— — . —	— 6 . 5	— 8 . 2
	36	— — . —	— — . —	— 6 . 4	— 8 . 1
	72	— — . —	— — . —	— 6 . 1	— 8 . 3
5613+50	108	— — . —	— — . —	— 6 . 2	— 8 . 3
	144	— — . —	— — . —	— 6 . 0	— 8 . 3
—+— —	0	— — . —	— — . —	— 6 . 6	— 8 . 3
	36	— — . —	— — . —	— 6 . 4	— 8 . 2
	72	— — . —	— — . —	— 6 . 1	— 8 . 5
5614+50	108	— — . —	— — . —	— 6 . 2	— 8 . 3
	144	— — . —	— — . —	— 5 . 9	— 8 . 6
—+— —	0	— — . —	— — . —	— 6 . 5	— 8 . 4
	36	— — . —	— — . —	— 6 . 2	— 8 . 5
	72	— — . —	— — . —	— 6 . 2	— 8 . 6
5615+50	108	— — . —	— — . —	— 6 . 2	— 8 . 6
	144	— — . —	— — . —	— 6 . 5	— 8 . 6
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N/A __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

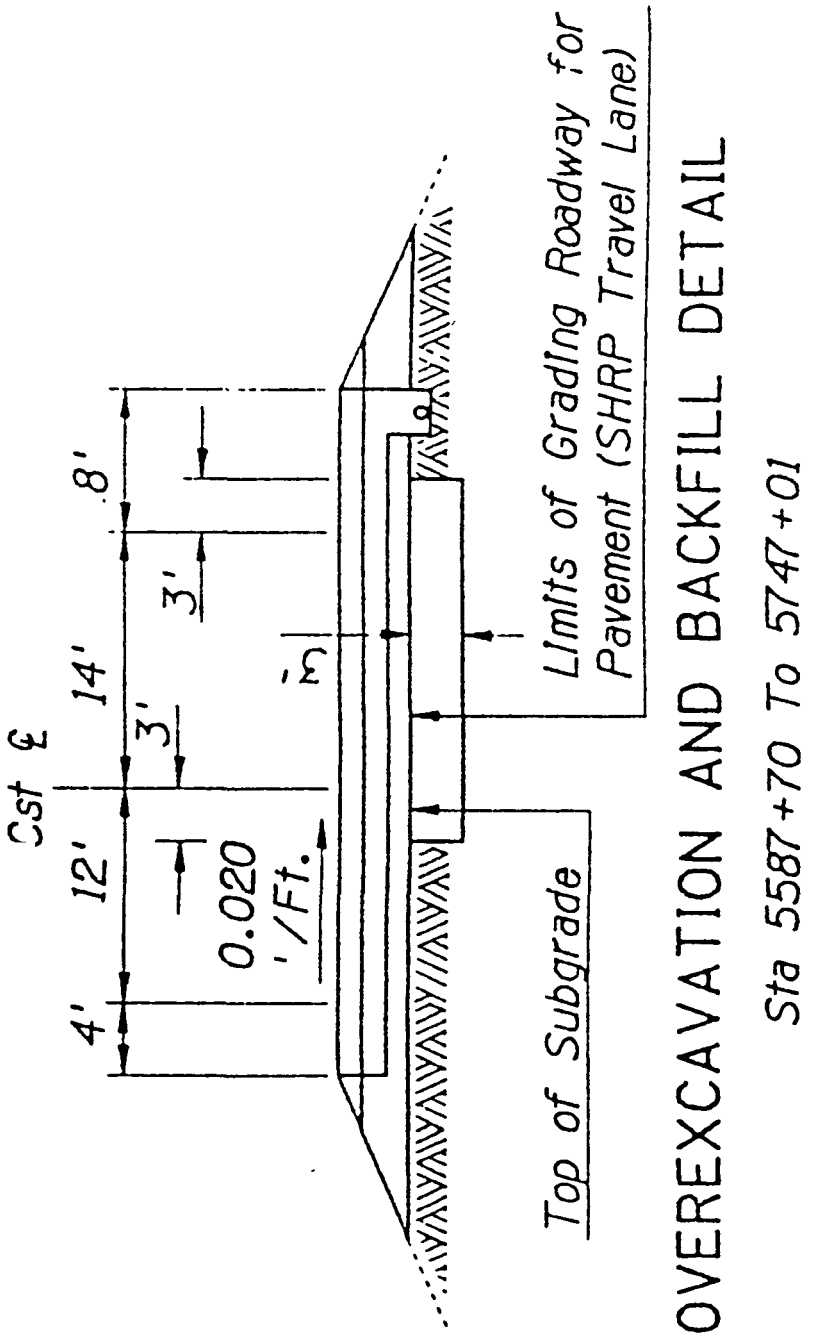
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]



PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [_15.0]

3. (RANDOM JOINT SPACING, IF ANY:
_____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N._]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
Round Dowels..... 1
Aggregate Interlock..... 2
Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.25]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
Paint and/or Grease..... 1
Plastic..... 2
Monel..... 3
Stainless Steel..... 4
Epoxy..... 5
Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
Preplaced on Baskets..... 1
Mechanically Installed..... 2
Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__N__.__]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N__.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [__]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [__.__ __]

* 7. DOWEL SPACING (Inches) [__ __.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__ __.__]

9. DOWEL LENGTH (Inches) [__ __.]

10. DOWEL COATING [__]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [__]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [__]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [__]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER R. Scrivner EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [78]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.9]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

LCB

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [N]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [1]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [N]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [__]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.__]

9. DEPTH, (Inches)..... [__.__]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.__]

11. DEPTH, (Inches)..... [__.__]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [__.__]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [__ __.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [__ __.__]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.__]

16. DEPTH, (Inches)..... [__.__]

PREPARER R Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 900 mix

*2. Coarse Aggregate (Pounds)..... [1826.]

*3. Fine Aggregate (Pounds)..... [1207.]

*4. Cement (Pounds)..... [__799.]

*5. Water (Pounds)..... [__292.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__ __.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[0.8]	40 oz/cy	[__ __ __.__]
*9.	ADMIXTURE #2	[__.__]		[__ __ __.__]
*10.	ADMIXTURE #3	[__.__]		[__ __ __.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __.__]
12.	Coarse	[__ __]	[__ __ __.__]
13.	Coarse	[__ __]	[__ __ __.__]
14.	Coarse and Fine	[__ __]	[__ __ __.__]

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD)

*2. Coarse Aggregate (Pounds)..... [3345.]

*3. Fine Aggregate (Pounds)..... [___0.]

*4. Cement (Pounds)..... [_234.]

*5. Water (Pounds)..... [_250.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[_50.__]
*9.	ADMIXTURE #2	[0.8]	5.5 oz/cy	[_____.__]
*10.	ADMIXTURE #3	[0.1]	3.5 oz/cy	[_____.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[_____.__]
12.	Coarse	[__ __]	[_____.__]
13.	Coarse	[__ __]	[_____.__]
14.	Coarse and Fine	[__ __]	[_____.__]

PREPARER R. Szot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 900 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	71
No. 30....	54
No. 40....	38
No. 50....	23
No. 30....	___
No. .00...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.	ABC Palmer / Hassayampa	[2]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6.	N/A	[__]	[___.]
* 7.		[__]	[___.]
* 8.		[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	89
5/8".....	___
1/2".....	62
3/8".....	53
No. 4.....	43

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	38
No. 10....	36
No. 16....	30
No. 30....	21
No. 40....	16
No. 50....	12
No. 80....	___
No. 100...	8
No. 200...	6.2

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.65]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [_.___]

PREPARER R Scrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-14-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-14-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 2]	[__ __ 8]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

LCB

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-23-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	TANNER	[__ __ 1]	[__ __ 4]
Plant 2		[__ __ __]	[__ __ __]
Plant 3		[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP-3000

7. SPREADER TYPE (if applicable) Belt Driven - side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco - 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [W]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_3.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER R Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____			8

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____			7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

LCB

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____	8		

4. TEXTURING [3]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____	7		

PREPARER R. Scrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [18]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [___ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

* 1. LANE WIDTH (Feet) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.]	[19.]
* 5. PAVED SHOULDER WIDTH (Feet)	[04.]	[10.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[38.]	[38.]
7. SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8. SHOULDER BASE THICKNESS (Inches)	[6.0]	[6.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [_.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__.__]

12. SPACING OF LATERALS (Feet) [___.]

PREPARER R. SZROT EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]	
2	[05]	[38]	[_ _6.1]	_ _5.5	_ _6.8	_ _ _.2	LCB
3	[03]	[04]	[_10.9]	_10.2	_11.4	_ _ _.2	PCCP
4	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— — . —	— — . —	— 6 . 4	1 0 . 7
	— 3 6	— — . —	— — . —	— 6 . 0	1 0 . 7
	— 7 2	— — . —	— — . —	— 6 . 1	1 0 . 6
5658+50	1 0 8	— — . —	— — . —	— 6 . 2	1 0 . 4
	1 4 4	— — . —	— — . —	— 5 . 9	1 0 . 8
—+— —	— — 0	— — . —	— — . —	— 6 . 2	1 1 . 0
	— 3 6	— — . —	— — . —	— 6 . 1	1 0 . 8
	— 7 2	— — . —	— — . —	— 6 . 4	1 0 . 8
5659+50	1 0 8	— — . —	— — . —	— 6 . 4	1 0 . 8
	1 4 4	— — . —	— — . —	— 6 . 0	1 0 . 9
—+— —	— — 0	— — . —	— — . —	— 6 . 0	1 1 . 2
	— 3 6	— — . —	— — . —	— 6 . 1	1 0 . 9
	— 7 2	— — . —	— — . —	— 6 . 1	1 1 . 3
5660+50	1 0 8	— — . —	— — . —	— 6 . 0	1 1 . 3
	1 4 4	— — . —	— — . —	— 6 . 0	1 1 . 4
—+— —	— — 0	— — . —	— — . —	— 6 . 2	1 0 . 9
	— 3 6	— — . —	— — . —	— 6 . 2	1 0 . 8
	— 7 2	— — . —	— — . —	— 6 . 1	1 1 . 2
5661+50	1 0 8	— — . —	— — . —	— 6 . 2	1 1 . 0
	1 4 4	— — . —	— — . —	— 6 . 4	1 1 . 0
—+— —	— — 0	— — . —	— — . —	— 6 . 0	1 1 . 3
	— 3 6	— — . —	— — . —	— 6 . 0	1 6 . 9
	— 7 2	— — . —	— — . —	— 5 . 9	1 1 . 2
5662+50	1 0 8	— — . —	— — . —	— 6 . 0	1 1 . 2
	1 4 4	— — . —	— — . —	— 6 . 0	1 1 . 3
—+— —	— — 0	— — . —	— — . —	— 6 . 0	1 0 . 7
	— 3 6	— — . —	— — . —	— 5 . 6	1 0 . 9
	— 7 2	— — . —	— — . —	— 5 . 8	1 1 . 0
5663+50	1 0 8	— — . —	— — . —	— 5 . 9	1 0 . 9
	1 4 4	— — . —	— — . —	— 5 . 8	1 1 . 2
—+— —	— — 0	— — . —	— — . —	— 6 . 2	1 0 . 7
	— 3 6	— — . —	— — . —	— 6 . 1	1 0 . 7
	— 7 2	— — . —	— — . —	— 6 . 0	1 0 . 8
5664+50	1 0 8	— — . —	— — . —	— 6 . 1	1 0 . 8
	1 4 4	— — . —	— — . —	— 5 . 6	1 1 . 4
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R Szrot EMPLOYER UCR DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [17]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [02-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [02-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

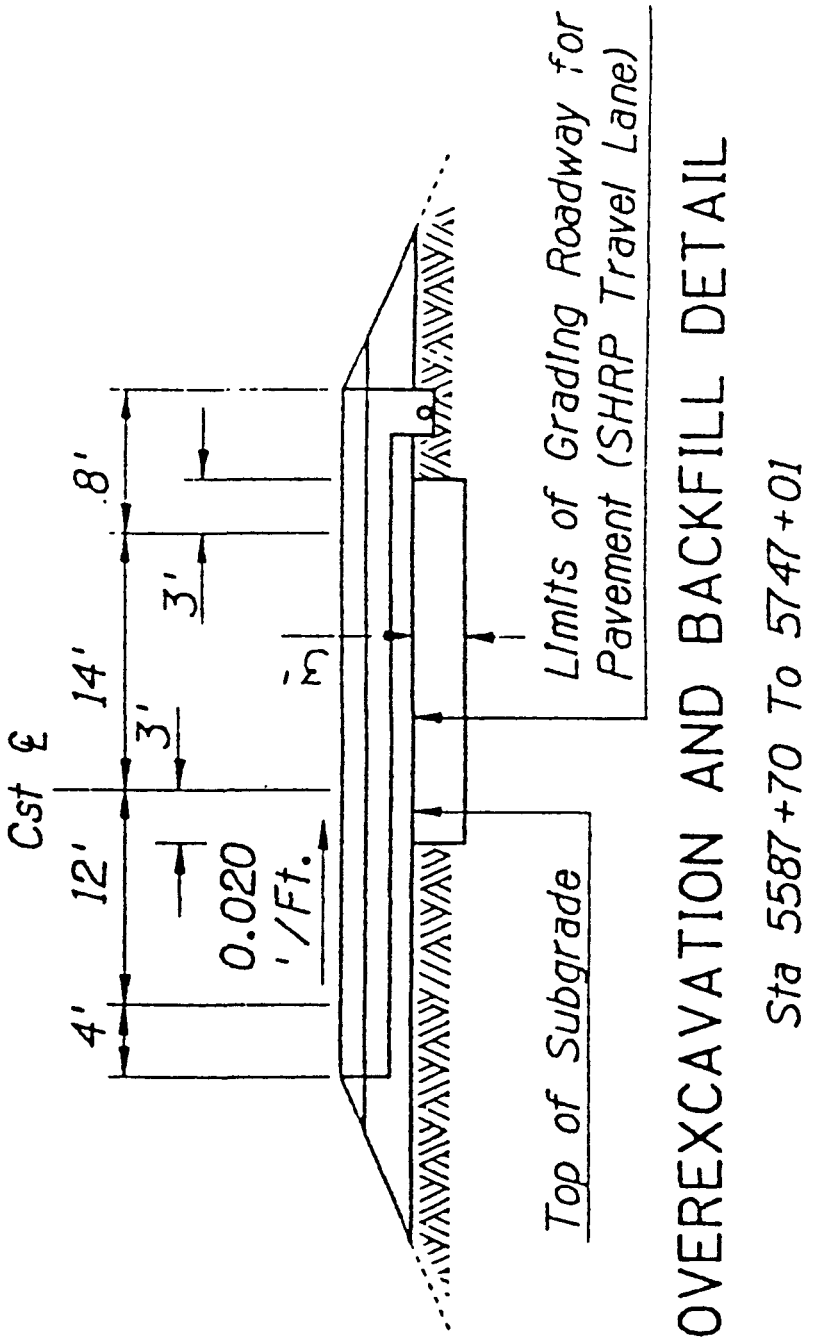
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [12]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__N__.__]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [__.N]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [__]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [__.__]

* 7. DOWEL SPACING (Inches) [__.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__.__]

9. DOWEL LENGTH (Inches) [__.]

10. DOWEL COATING [__]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [__]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [__]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [__]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER R. Senft EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [79]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt ..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.5]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [L9]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [N]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [1]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [N]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __ __.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [__]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.__ __]

9. DEPTH, (Inches)..... [__.__ __]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.__ __]

11. DEPTH, (Inches)..... [__.__ __]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [__.__ __]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [__ __.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [__ __.__]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.__ __]

16. DEPTH, (Inches)..... [__.__ __]

PREPARER R. SZOT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1939.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [__400.]

*5. Water (Pounds)..... [__232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.*4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD)

*2. Coarse Aggregate (Pounds)..... [3345.]

*3. Fine Aggregate (Pounds)..... [___0.]

*4. Cement (Pounds)..... [_234.]

*5. Water (Pounds)..... [_250.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[10.]		[_50.__]
*9.	ADMIXTURE #2	[0.8]	5.5 oz/cy	[_____.__]
*10.	ADMIXTURE #3	[0.1]	3.5 oz/cy	[_____.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[_____.__]
12.	Coarse	[__ __]	[_____.__]
13.	Coarse	[__ __]	[_____.__]
14.	Coarse and Fine	[__ __]	[_____.__]

PREPARER R Szrot EMPLOYER NCR DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE (SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9) [__.]

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67 __]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65 __]

PREPARER R. Scrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.	ABC Palmer / Hassayampa	[2]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__ __.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE		TYPE	PERCENT
* 6.	N/A	[__]	[___.]
* 7.		[__]	[___.]
* 8.		[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	89
5/8".....	___
1/2".....	62
3/8".....	53
No. 4.....	43

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	38
No. 10....	36
No. 16....	30
No. 30....	21
No. 40....	16
No. 50....	12
No. 80....	___
No. 100...	8
No. 200...	6.2

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.65]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [_.___]

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-12-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-12-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [_]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__1]	[__3]
Plant 2		[___]	[___]
Plant 3		[___]	[___]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brion Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) LCB [08-24-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-24-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [_]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	TANNER	[__1]	[__4]
Plant 2		[___]	[___]
Plant 3		[___]	[___]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER GOMACO GP-3000

7. SPREADER TYPE (if applicable) BELT DRIVEN - side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER GOMACO 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_3.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER R. SZROT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]
   Membrane Curing Compound..... 1 Burlap-Polyethylene Blanket... 5
   Burlap Curing Blankets..... 2 Cotton Mat Curing..... 6
   Waterproof Paper Blankets..... 3 Hay..... 7
   White Polyethylene Sheeting... 4
   Other (Specify)_____ 8

4. TEXTURING [1]
   Tine..... 1 Grooved Float..... 4
   Broom..... 2 Astro Turf..... 5
   Burlap Drag..... 3 None..... 6
   Other (Specify)_____ 7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

LCB

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____			8

4. TEXTURING [3]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____			7

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [19]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [___ ___]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [___.___ ___]

6. CUTOFF HEIGHT (Inches) [___.___ ___]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARED EXPLOITE DATE

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

* 1. LANE WIDTH (Feet) [14.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.]	[17.]
* 5. PAVED SHOULDER WIDTH (Feet)	[__4.]	[__8.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[38.]	[38.]
7. SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8. SHOULDER BASE THICKNESS (Inches)	[__6.0]	[__6.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [__.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__ __.__]

12. SPACING OF LATERALS (Feet) [__ __ __.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]	
2	[05]	[38]	[_6.2]	5.8	7.0	.3	LCB
3	[03]	[04]	[11.5]	10.7	12.1	.3	PCCP
4	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. SZKOT EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— — . —	— — . —	— 6 . 4	1 1 . 9
	— 3 6	— — . —	— — . —	— 6 . 4	1 1 . 6
	— 7 2	— — . —	— — . —	— 6 . 4	1 1 . 8
5617+0	1 0 8	— — . —	— — . —	— 6 . 1	1 1 . 8
	1 4 4	— — . —	— — . —	— 6 . 0	1 1 . 9
—+— —	— — 0	— — . —	— — . —	— 6 . 6	1 2 . 1
	— 3 6	— — . —	— — . —	— 6 . 6	1 1 . 5
	— 7 2	— — . —	— — . —	— 6 . 2	1 1 . 8
5619+0	1 0 8	— — . —	— — . —	— 6 . 2	1 1 . 5
	1 4 4	— — . —	— — . —	— 6 . 1	1 1 . 8
—+— —	— — 0	— — . —	— — . —	— 6 . 5	1 1 . 5
	— 3 6	— — . —	— — . —	— 6 . 6	1 1 . 5
	— 7 2	— — . —	— — . —	— 6 . 0	1 1 . 8
5620+0	1 0 8	— — . —	— — . —	— 6 . 0	1 1 . 6
	1 4 4	— — . —	— — . —	— 5 . 9	1 1 . 8
—+— —	— — 0	— — . —	— — . —	— 6 . 2	1 1 . 6
	— 3 6	— — . —	— — . —	— 6 . 1	1 1 . 5
	— 7 2	— — . —	— — . —	— 6 . 1	1 1 . 5
5622+0	1 0 8	— — . —	— — . —	— 6 . 0	1 1 . 4
	1 4 4	— — . —	— — . —	— 5 . 9	1 1 . 4
—+— —	— — 0	— — . —	— — . —	— 6 . 4	1 1 . 3
	— 3 6	— — . —	— — . —	— 6 . 4	1 1 . 3
	— 7 2	— — . —	— — . —	— 6 . 2	1 1 . 4
5624+0	1 0 8	— — . —	— — . —	— 6 . 0	1 1 . 4
	1 4 4	— — . —	— — . —	— 6 . 0	1 1 . 4
—+— —	— — 0	— — . —	— — . —	— 7 . 0	1 0 . 9
	— 3 6	— — . —	— — . —	— 6 . 6	1 0 . 7
	— 7 2	— — . —	— — . —	— 6 . 4	1 0 . 9
5625+0	1 0 8	— — . —	— — . —	— 6 . 4	1 0 . 9
	1 4 4	— — . —	— — . —	— 6 . 4	1 1 . 0
—+— —	— — 0	— — . —	— — . —	— 6 . 8	1 1 . 2
	— 3 6	— — . —	— — . —	— 6 . 8	1 1 . 0
	— 7 2	— — . —	— — . —	— 6 . 8	1 1 . 3
5626+0	1 0 8	— — . —	— — . —	— 6 . 8	1 1 . 2
	1 4 4	— — . —	— — . —	— 6 . 2	1 1 . 5
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

		TYPE	PERCENT
*5.	STABILIZING AGENT 1	[__]	[__ __.__]
*6.	STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

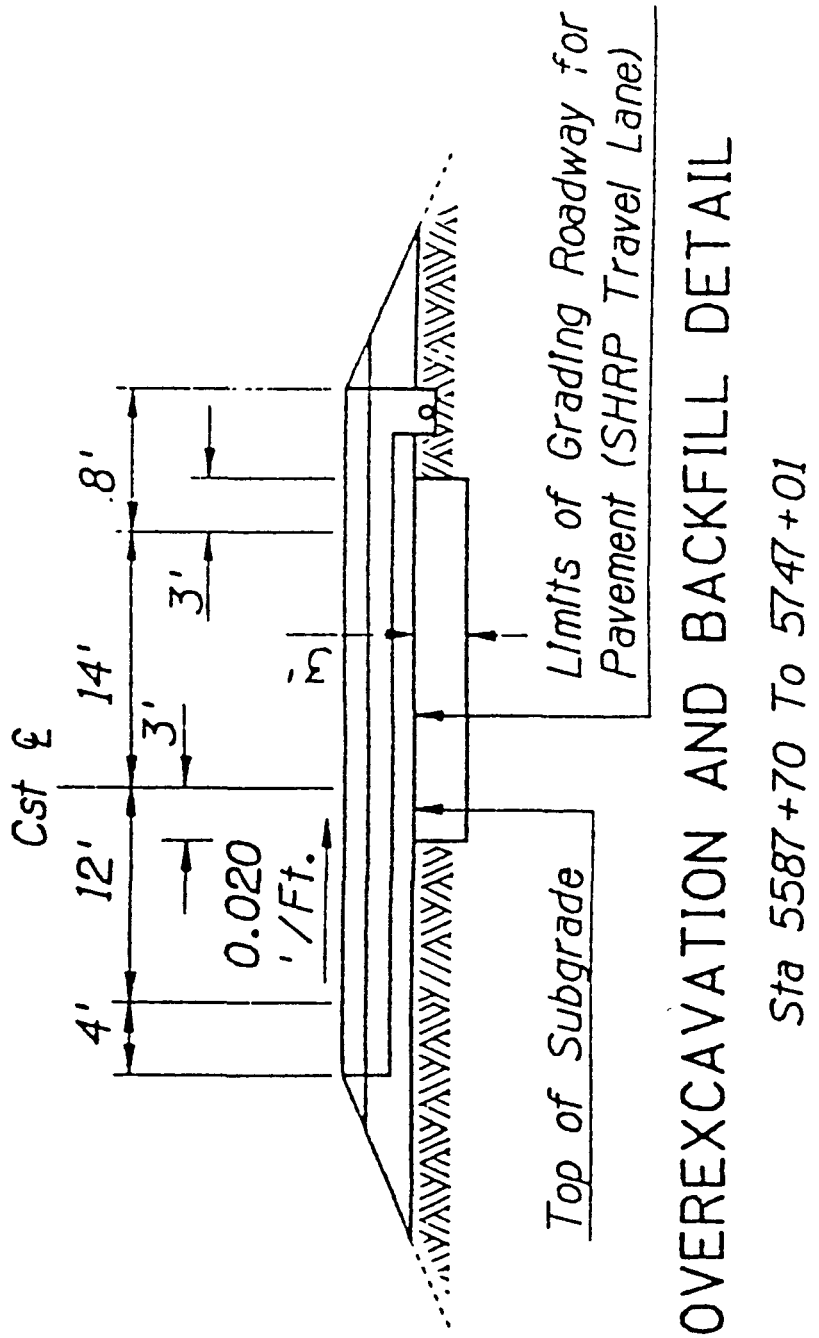
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [8 0]



PREPARER R. Szmt EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
- Round Dowels..... 1
- Aggregate Interlock..... 2
- Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
- Paint and/or Grease..... 1
- Plastic..... 2
- Monel..... 3
- Stainless Steel..... 4
- Epoxy..... 5
- Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
- Preplaced on Baskets..... 1
- Mechanically Installed..... 2
- Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

LCB

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__N__.__]

3. (RANDOM JOINT SPACING, IF ANY:
_____)

* 4. SKEWNESS OF JOINTS (ft/lane) [__N__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [__]
Round Dowels..... 1
Aggregate Interlock..... 2
Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [__.__]

* 7. DOWEL SPACING (Inches) [__.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__.__]

9. DOWEL LENGTH (Inches) [__.]

10. DOWEL COATING [__]
Paint and/or Grease..... 1
Plastic..... 2
Monel..... 3
Stainless Steel..... 4
Epoxy..... 5
Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [__]
Preplaced on Baskets..... 1
Mechanically Installed..... 2
Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [__]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [__]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER R Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ 1 1.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.5]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [N]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [1]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [N]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __ __.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [__]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.__ __]

9. DEPTH, (Inches)..... [__.__ __]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.__ __]

11. DEPTH, (Inches)..... [__.__ __]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [__.__ __]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [__ __.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [__ __.__]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.__ __]

16. DEPTH, (Inches)..... [__.__ __]

PREPARER R SZAROT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 900 mix

*2. Coarse Aggregate (Pounds)..... [1826.]

*3. Fine Aggregate (Pounds)..... [1207.]

*4. Cement (Pounds)..... [_799.]

*5. Water (Pounds)..... [_292.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__ __.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[0.8]	40 oz/cy	[__ __ __.__]
*9.	ADMIXTURE #2	[__.__]		[__ __ __.__]
*10.	ADMIXTURE #3	[__.__]		[__ __ __.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __.__]
12.	Coarse	[__ __]	[__ __ __.__]
13.	Coarse	[__ __]	[__ __ __.__]
14.	Coarse and Fine	[__ __]	[__ __ __.__]

[illegible] D Sze[illegible] [illegible] NCE [illegible]

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD)

*2. Coarse Aggregate (Pounds)..... [3345.]

*3. Fine Aggregate (Pounds)..... [___~~0~~.]

*4. Cement (Pounds)..... [_234.]

*5. Water (Pounds)..... [_250.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[_50._]
*9.	ADMIXTURE #2	[0.8]	5.5 oz/cy	[___._]
*10.	ADMIXTURE #3	[0.1]	3.5 oz/cy	[___._]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___ ___.__]
12.	Coarse	[__ __]	[___ ___.__]
13.	Coarse	[__ __]	[___ ___.__]
14.	Coarse and Fine	[__ __]	[___ ___.__]

PREPARER R. Sears EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 900 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE (SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9) [__.]

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 30....	___
No. .00...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) LCB [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.	ABC Palmer / Hassayampa	[2]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__ __.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6.	N/A	[__]	[___.]
* 7.		[__]	[___.]
* 8.		[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	89
5/8".....	___
1/2".....	62
3/8".....	53
No. 4.....	43

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	38
No. 10....	36
No. 16....	30
No. 30....	21
No. 40....	16
No. 50....	12
No. 80....	___
No. 100...	8
No. 200...	6.2

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.65]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [_.___]

PREPARER R Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-14-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-14-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 2]	[__ __ 7]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

LCB

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-23-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	TANNER	[__ __ 1]	[__ __ 4]
Plant 2		[__ __ __]	[__ __ __]
Plant 3		[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER GOMACO GP-3000

7. SPREADER TYPE (if applicable) Belt Driven - side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER GOMACO 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [__ 3.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER R Szrot EMPLOYER NCK DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____			8*

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____			7

PREPARER Bruce Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

LGB

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]
   Membrane Curing Compound..... 1 Burlap-Polyethylene Blanket... 5
   Burlap Curing Blankets..... 2 Cotton Mat Curing..... 6
   Waterproof Paper Blankets..... 3 Hay..... 7
   White Polyethylene Sheeting... 4
   Other (Specify)_____ 8

4. TEXTURING [3]
   Tine..... 1 Grooved Float..... 4
   Broom..... 2 Astro Turf..... 5
   Burlap Drag..... 3 None..... 6
   Other (Specify)_____ 7

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [20]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [2 1]

* 1. LANE WIDTH (Feet) [1 4.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[1 3.]	[1 2.]
* 5. PAVED SHOULDER WIDTH (Feet)	[4.]	[8.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[3 1.]	[3 1.]
7. SHOULDER SURFACE THICKNESS (Inches)	[8. 0]	[8. 0]
8. SHOULDER BASE THICKNESS (Inches)	[4. 0]	[4. 0]

* 9. SUBSURFACE DRAINAGE TYPE [2.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [4.0]

12. SPACING OF LATERALS (Feet) [2 0 0.]

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [2]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]					
2	[06]	[23]	[4.0]	3.5	6.1	.4	DGAB
3	[05]	[31]	[4.1]	3.6	4.8	.3	PBTB
4	[03]	[04]	[7.9]	7.1	8.5	.3	PCCP
5	[__ __]	[__ __]	[.]	.	.	.	
6	[__ __]	[__ __]	[.]	.	.	.	
7	[__ __]	[__ __]	[.]	.	.	.	
8	[__ __]	[__ __]	[.]	.	.	.	
9	[__ __]	[__ __]	[.]	.	.	.	
10	[__ __]	[__ __]	[.]	.	.	.	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	OFFSET (Inches) FROM ℄	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	0	4.4	4.1	—.—	7.9
	36	3.8	4.3	—.—	7.4
5675+0	72	4.1	4.3	—.—	7.7
	108	3.5	4.2	—.—	7.8
	144	4.0	3.8	—.—	8.0
—+— —	0	6.1	4.8	—.—	7.2
	36	5.0	4.7	—.—	7.1
5676+0	72	3.8	4.3	—.—	7.6
	108	4.0	4.1	—.—	7.2
	144	4.3	4.2	—.—	7.7
—+— —	0	4.2	4.4	—.—	7.4
	36	4.2	4.3	—.—	7.6
5677+0	72	4.2	4.3	—.—	7.7
	108	4.3	4.2	—.—	7.7
	144	4.2	4.4	—.—	7.6
—+— —	0	4.0	4.3	—.—	7.9
	36	3.8	4.3	—.—	7.8
5678+0	72	3.7	4.3	—.—	7.8
	108	4.3	4.1	—.—	7.6
	144	4.2	4.2	—.—	7.6
—+— —	0	4.1	4.0	—.—	8.0
	36	4.0	3.8	—.—	8.3
5679+0	72	4.0	4.0	—.—	8.0
	108	4.2	3.7	—.—	8.0
	144	4.2	4.0	—.—	8.2
—+— —	0	4.2	4.1	—.—	7.7
	36	4.0	3.8	—.—	8.0
5680+0	72	4.2	3.8	—.—	7.9
	108	4.2	3.7	—.—	7.9
	144	4.1	3.8	—.—	7.9
—+— —	0	—.—	—.—	—.—	—.—
	36	—.—	—.—	—.—	—.—
	72	—.—	—.—	—.—	—.—
	108	—.—	—.—	—.—	—.—
	144	—.—	—.—	—.—	—.—
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R SZROT EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

		TYPE	PERCENT
*5.	STABILIZING AGENT 1	[__]	[__ __.__]
*6.	STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

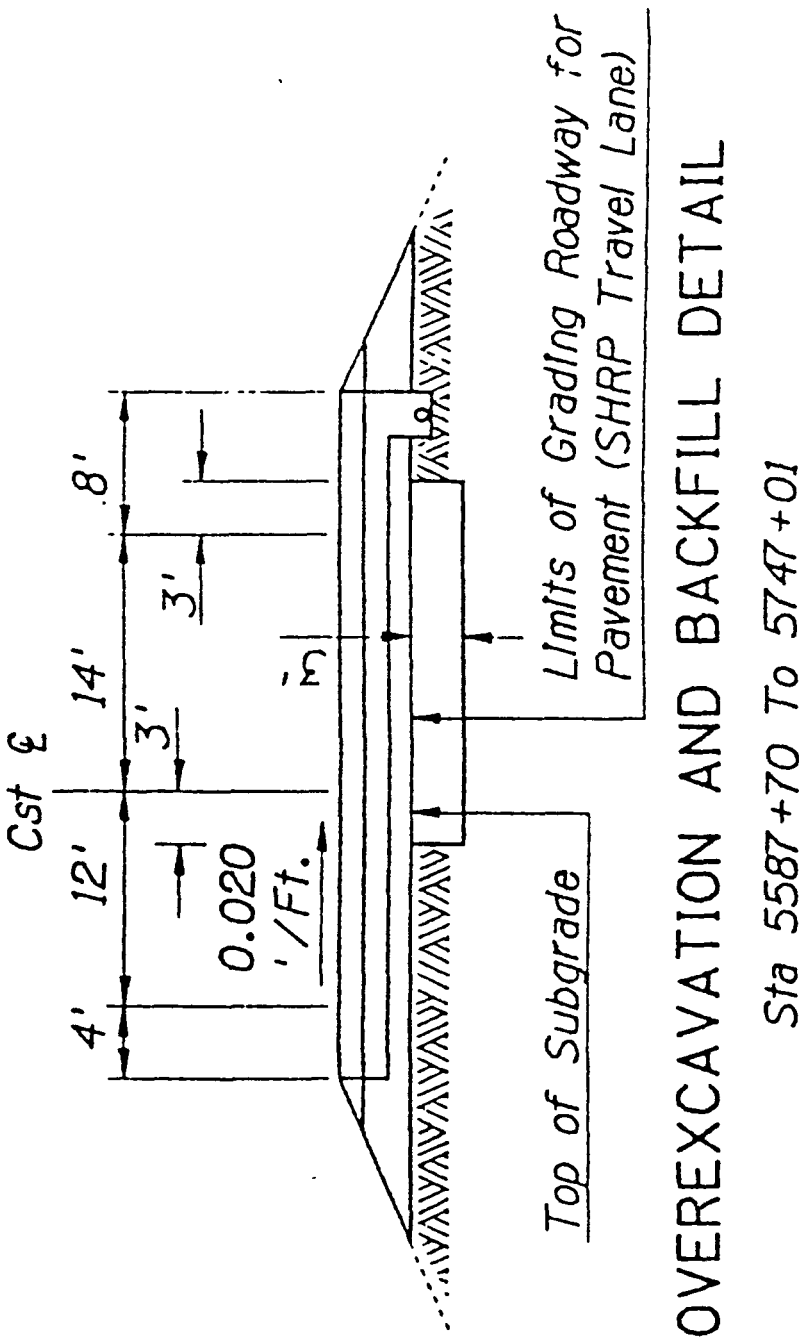
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Szatt EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Scrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [02-28-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 4.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

_____

_____

_____

PREPARER R. Szabo EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[2]	[100.]
* 6.		[__]	[___.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [N]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__N]

*12. AGGREGATE COMBINATION (CALCULATED) [2.662]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [__.__U]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__N]	[___.N]
15.	Coarse	[____]	[___.__]
16.	Coarse	[____]	[___.__]
17.	Coarse and Fine - Combined	[____]	[___.__]

18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319) [__N]

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.022]
(AASHTO T228)

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm)
(100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[__]	[__.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[__]	[__.]

10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm)
(200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R. Szaot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [__]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2 NO SAMPLE TAKEN

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [__.__ __ __]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [__.__ __ __] NUMBER OF TESTS [__ __.]
5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [__.__ __ __] NUMBER OF SAMPLES [__ __.]
8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [__.__ __ __] NUMBER OF SAMPLES [__ __.]
11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [__ __.__]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [__ __.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [__ __ __.__]

*16. NUMBER OF BLOWS [__ __]

*17. MARSHALL FLOW (Hundredths of an Inch) [__ __ __ __.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__ __ __.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [__ __ __ __.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [__ __]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [__]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__ __.__]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R. SZROT EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-19-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-20-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[ ]	UNITED METRO #1	[45]	[60]	[ ]
Plant 2	[—]	—	[—]	[—]	[—]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify —

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF 500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.3]

7. PATB PLACEMENT LIFTS: Layer Number [ ]

Nominal First Lift Placement Thickness (Inches) [4.5]

Nominal Second Lift Placement Thickness (Inches) [—]

Nominal Third Lift Placement Thickness (Inches) [—]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) ELECTRONIC GRADE CONTROLS NOT WORKING MAKING SEVERAL MANUAL ADJUSTMENTS. PAVER BROKEN DOWN FOR 1 1/4 HOURS. STARTED PAVING AGAIN IN DUST STORM. STARTED SPRINKLING DURING LAST PASS RAIN STOPPED PAVING AT 6:00 PM AND LAST PASS HAD NOT BEEN ROLLED FINISHED PAVING THE FOLLOWING MORNING. BREAKDOWN & WEATHER PROBLEMS ALL ON INSIDE PASS WHICH AFFECTS PASSING LANE AND SHOULDER.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO. [21]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-20-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-20-93]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) ~ [280]

5. LAYDOWN TEMPERATURES (°F) ESTIMATED
Mean..... [240.] Number of Tests ..... [__.]
Minimum..... [___] Maximum ..... [___]
Standard Deviation... [__.__]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	15.0				
7	B	Steel-Whl Tandem	__.__				
8	C	Steel-Whl Tandem	__.__				
9	D	Steel-Whl Tandem	__.__				
10	E	Pneumatic-Tired	__.__	____.			
11	F	Pneumatic-Tired	__.__	____.			
12	G	Pneumatic-Tired	__.__	____.			
13	H	Pneumatic-Tired	__.__				
14	I	Single-Drum Vibr.	__.__		____.	___.	__.__
15	J	Single-Drum Vibr.	__.__		____.	___.	__.__
16	K	Single-Drum Vibr.	__.__		____.	___.	__.__
17	L	Single-Drum Vibr.	__.__		____.	___.	__.__
18	M	Double-Drum Vibr.	__.__		____.	___.	__.__
19	N	Double-Drum Vibr.	__.__		____.	___.	__.__
20	O	Double-Drum Vibr.	__.__		____.	___.	__.__
21	P	Double-Drum Vibr.	__.__		____.	___.	__.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	None	__	__	__
24	Coverages	__ __.	__ __.	__ __.	__ __.
	INTERMEDIATE				
25	Roller Code (A-Q)	None	__	__	__
26	Coverages	__ __.	__ __.	__ __.	__ __.
	FINAL				
27	Roller Code (A-Q)	A	__	__	__
28	Coverages	_3	__ __	__ __.	__ __.
29	Air Temperature (°F)	_95	___	___.	___.
30	Compacted Thickness (In)	4.1	__.__	__.__	__.__
31	Curing Period (Days)	20_	___	___	__.__

PREPARER R. Scott EMPLOYER NCL DATE 2/13/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [_15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N._]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.25]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Rasmussen EMPLOYER NCE/WRCO DATE 9/10/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1939.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [400.]

*5. Water (Pounds)..... [232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

PREPARER R Sero EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-10-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-10-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 3]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [21]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____	8		

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____	7		

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [2 1]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [___]

3. PROFILE INDEX (Inches/Mile) [___ ___]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [___]

5. HEIGHT OF BLANKING BAND (Inches) [___.___ ___]

6. CUTOFF HEIGHT (Inches) [___.___ ___]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER EMPLOYER DATE

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [2 2]

* 1. LANE WIDTH (Feet) [1 2.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[1 3.]	[1 9.]
* 5. PAVED SHOULDER WIDTH (Feet)	[_ 4.]	[1 0.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[3 1.]	[3 1.]
7. SHOULDER SURFACE THICKNESS (Inches)	[_ 8. 0]	[_ 8. 0]
8. SHOULDER BASE THICKNESS (Inches)	[_ 4. 0]	[_ 4. 0]

* 9. SUBSURFACE DRAINAGE TYPE [2.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [_ 4.0]

12. SPACING OF LATERALS (Feet) [2 0 0.]

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [28]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]				
2	[06]	[23]	[__4.2]	__3.5	__5.2	___.3
3	[05]	[31]	[__3.8]	__3.1	__4.7	___.3
4	[03]	[04]	[__8.6]	__8.0	__9.4	___.3
5	[__ __]	[__ __]	[___._]	___._	___._	___._
6	[__ __]	[__ __]	[___._]	___._	___._	___._
7	[__ __]	[__ __]	[___._]	___._	___._	___._
8	[__ __]	[__ __]	[___._]	___._	___._	___._
9	[__ __]	[__ __]	[___._]	___._	___._	___._
10	[__ __]	[__ __]	[___._]	___._	___._	___._

DGAC
PBTB
PCCP

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

LAYER THICKNESS MEASUREMENTS (Inches)

SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
_+_ _ 5602+0	0 36 22 08 44	3.7 3.7 3.7 3.6 3.7	4.0 4.2 4.2 4.1 4.1	_._ _._ _._ _._ _._	8.9 8.5 8.5 8.5 8.5
_+_ _ 5603+0	0 36 22 08 44	4.4 4.1 4.2 4.1 3.5	4.0 4.1 4.2 4.4 4.7	_._ _._ _._ _._ _._	8.6 8.5 8.4 8.0 8.0
_+_ _ 5604+0	0 36 22 08 44	4.4 4.2 4.2 4.2 3.8	3.6 4.1 4.0 4.0 4.7	_._ _._ _._ _._ _._	8.9 8.6 8.5 8.4 8.2
_+_ _ 5605+0	0 36 22 08 44	4.4 4.3 4.6 4.3 4.3	3.4 3.6 3.4 3.6 4.0	_._ _._ _._ _._ _._	8.9 8.6 8.6 8.4 8.0
_+_ _ 5606+0	0 36 22 08 44	5.2 4.8 5.0 4.9 4.3	3.5 3.6 3.2 3.1 3.4	_._ _._ _._ _._ _._	9.1 9.0 9.1 9.1 9.1
_+_ _ 5607+0	0 36 22 08 44	4.3 4.2 4.4 4.3 4.0	4.1 4.1 4.0 3.8 4.1	_._ _._ _._ _._ _._	8.3 8.3 8.2 8.2 8.3
_+_ _	___ ___ ___ ___ ___	_._ _._ _._ _._ _._	_._ _._ _._ _._ _._	_._ _._ _._ _._ _._	_._ _._ _._ _._ _._
LAYER NUMBER[1]		__ __	__ __	__ __	__ __

[1] from Construction Data Sheet 4

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

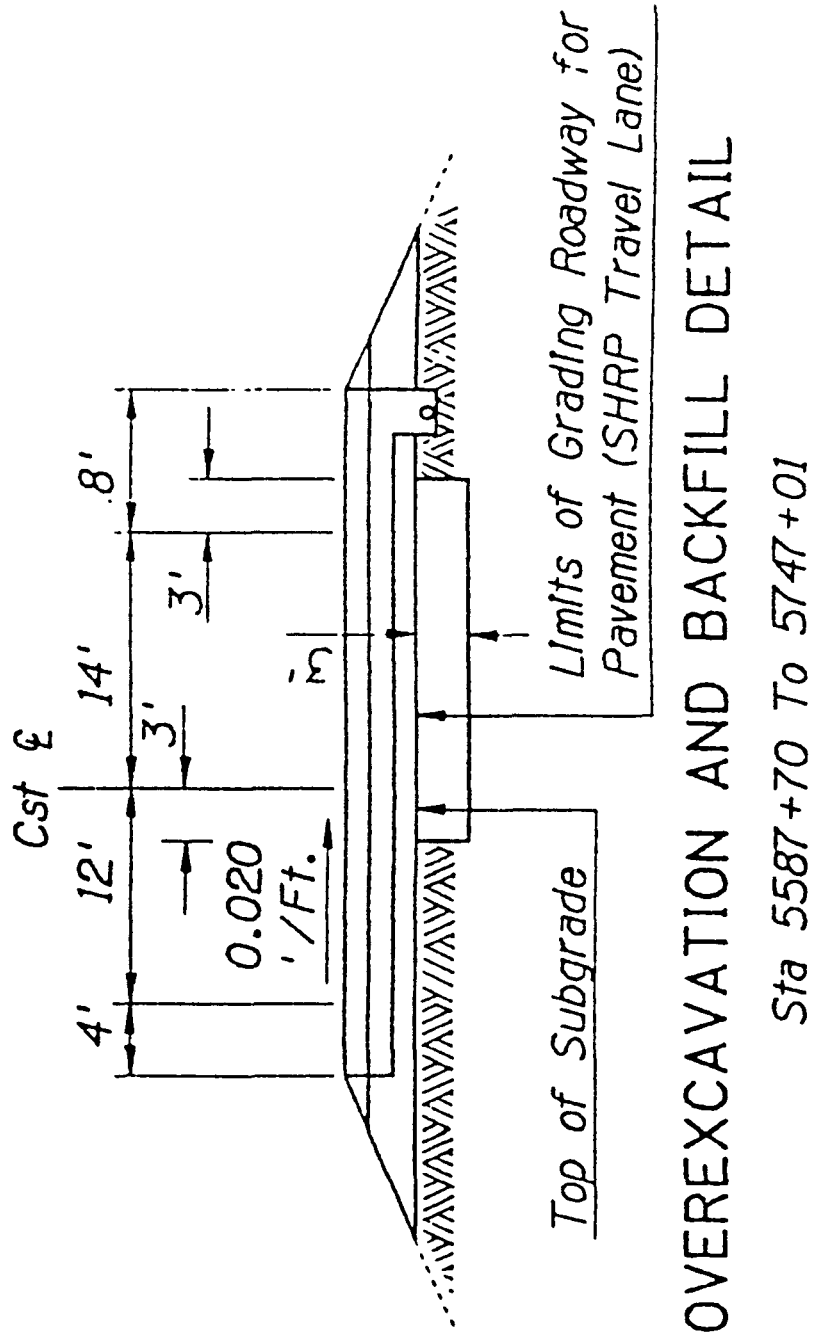
_____

_____

_____

PREPARER R Scratt EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]



PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 4.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Initial placement looked "Rocky" Sample tests failed — Sand was brought in and reprocessed — Test passed afterwards

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[2]	[100]
* 6.		[__]	[___.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [N]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__N]

*12. AGGREGATE COMBINATION (CALCULATED) [2.662]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [__.__4]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__N]	[___.4]
15.	Coarse	[____]	[___.__]
16.	Coarse	[____]	[___.__]
17.	Coarse and Fine - Combined	[____]	[___.__]

18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319) [__N]

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.023]
(AASHTO T228)

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm)
(100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm)
(200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [2]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [__.__N/A__]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [__.__N/A] NUMBER OF TESTS [__ __.]
5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [2.52 __] NUMBER OF SAMPLES [__ 1.]
8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [__.__N/A__] NUMBER OF SAMPLES [__ __.]
11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [__N/A__]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [__N/A__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [__N/A__]

*16. NUMBER OF BLOWS [N/A]

*17. MARSHALL FLOW (Hundredths of an Inch) [__N/A__.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N/A__.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [__N/A__.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [__N]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [N]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__ __N]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-19-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-19-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[ ]	[UNITED METRO *]	[45]	[60]	[ ]
Plant 2	[ ]	[ ]	[ ]	[ ]	[ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF 500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [13.0]

7. PATB PLACEMENT LIFTS: Layer Number [ ]

Nominal First Lift Placement Thickness (Inches) [4.7]

Nominal Second Lift Placement Thickness (Inches) [ ]

Nominal Third Lift Placement Thickness (Inches) [ ]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) Prime coat of MC 250 shot at 0.50 gallons/sq yd 6 DAYS PRIOR TO PAVING. FIRST SECTION PAVED. THEREFORE EXPERIMENTING WITH THE GRADE CONTROLS. SOME DRAWDOWN & CLUMPS IN MIXTURE. NO MAJOR PROBLEMS OR DELAYS. AGGREGATE IN EDGE DRAIN WAS SLIGHTLY LOW FOR MOST OF SECTION AIR TEMP DURING PLACEMENT ~ 85°F

PREPARER D. FREITAG EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO. [22]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-19-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-19-93]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) ~ [280.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... [225]
Minimum..... [176]
Standard Deviation... [43.9]
Number of Tests ..... [__3.]
Maximum .. .. [240.]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	15.0				
7	B	Steel-Whl Tandem					
8	C	Steel-Whl Tandem					
9	D	Steel-Whl Tandem					
10	E	Pneumatic-Tired					
11	F	Pneumatic-Tired					
12	G	Pneumatic-Tired					
13	H	Pneumatic-Tired					
14	I	Single-Drum Vibr.					
15	J	Single-Drum Vibr.					
16	K	Single-Drum Vibr.					
17	L	Single-Drum Vibr.					
18	M	Double-Drum Vibr.					
19	N	Double-Drum Vibr.					
20	O	Double-Drum Vibr.					
21	P	Double-Drum Vibr.					
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN		N/A	N/A	N/A
23	Roller Code (A-Q)	NONE			
24	Coverages				
	INTERMEDIATE				
25	Roller Code (A-Q)	NONE			
26	Coverages				
	FINAL				
27	Roller Code (A-Q)	A			
28	Coverages	3			
29	Air Temperature (°F)	85			
30	Compacted Thickness (In)	3.8			
31	Curing Period (Days)	25			

PREPARER R Scott EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [ ]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.25]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [12]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [29.9]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brion Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 900 mix

*2. Coarse Aggregate (Pounds)..... [1826.]

*3. Fine Aggregate (Pounds)..... [1207.]

*4. Cement (Pounds)..... [__ 798.]

*5. Water (Pounds)..... [__ 292.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__ __.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[0.8]	40 oz/cy	[__ __ __.__]
*9.	ADMIXTURE #2	[__.__]		[__ __ __.__]
*10.	ADMIXTURE #3	[__.__]		[__ __ __.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __.__]
12.	Coarse	[__ __]	[__ __ __.__]
13.	Coarse	[__ __]	[__ __ __.__]
14.	Coarse and Fine	[__ __]	[__ __ __.__]

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.	#57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6.	Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.		[__]	[___.]
* 8.		[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 30....	___
No. .00...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-14-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-14-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [_]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__2]	[__9]
Plant 2	_____	[___]	[___]
Plant 3	_____	[___]	[___]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [22]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		

   Other (Specify)_____ 8

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6

   Other (Specify)_____ 7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [2 2]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____] *

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARED EXPLOITR DATE

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

* 1. LANE WIDTH (Feet) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.]5	[19.]5
* 5. PAVED SHOULDER WIDTH (Feet)	[4.]	[10.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[31.]	[31.]
7. SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8. SHOULDER BASE THICKNESS (Inches)	[4.0]	[4.0]

* 9. SUBSURFACE DRAINAGE TYPE [2.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [4.0]

12. SPACING OF LATERALS (Feet) [200.]

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]					
2	[06]	[23]	[_3.6]	_2.9	_4.0	_.2	DGAB
3	[05]	[31]	[_4.2]	_3.5	_4.8	_.2	PBTB
4	[03]	[04]	[10.9]	10.1	11.6	.3	PCCP
5	[__ __]	[__ __]	[_._]	_._	_._	_._	
6	[__ __]	[__ __]	[_._]	_._	_._	_._	
7	[__ __]	[__ __]	[_._]	_._	_._	_._	
8	[__ __]	[__ __]	[_._]	_._	_._	_._	
9	[__ __]	[__ __]	[_._]	_._	_._	_._	
10	[__ __]	[__ __]	[_._]	_._	_._	_._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	0	13.5	4.4	—.—	10.1
	36	13.5	4.2	—.—	10.4
	72	13.4	4.3	—.—	10.6
5651+50	108	13.6	4.1	—.—	10.7
	144	13.7	4.0	—.—	10.8
—+— —	0	13.7	3.8	—.—	11.2
	36	13.5	4.0	—.—	11.0
	72	13.5	4.1	—.—	11.0
5652+50	108	13.7	4.0	—.—	11.0
	144	13.5	4.2	—.—	10.8
—+— —	0	13.5	4.3	—.—	10.7
	36	13.4	4.3	—.—	10.9
	72	13.4	4.2	—.—	10.9
5653+50	108	13.6	4.3	—.—	10.9
	144	13.6	4.3	—.—	10.9
—+— —	0	13.4	4.2	—.—	11.2
	36	13.1	4.3	—.—	11.0
	72	12.9	4.6	—.—	11.0
5654+50	108	13.5	4.3	—.—	10.9
	144	13.5	4.7	—.—	10.7
—+— —	0	13.7	3.8	—.—	11.3
	36	13.6	4.1	—.—	11.0
	72	13.6	3.8	—.—	11.3
5655+50	108	13.7	4.0	—.—	11.2
	144	13.2	4.4	—.—	10.9
—+— —	0	13.7	4.0	—.—	11.0
	36	13.7	3.8	—.—	11.3
	72	13.6	3.5	—.—	11.6
5656+50	108	13.8	3.6	—.—	11.5
	144	13.6	4.2	—.—	11.3
—+— —	0	—.—	—.—	—.—	—.—
	36	—.—	—.—	—.—	—.—
	72	—.—	—.—	—.—	—.—
	108	—.—	—.—	—.—	—.—
	144	—.—	—.—	—.—	—.—
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. Szabo EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N/A]
*6. STABILIZING AGENT 2	[__]	[N/A]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

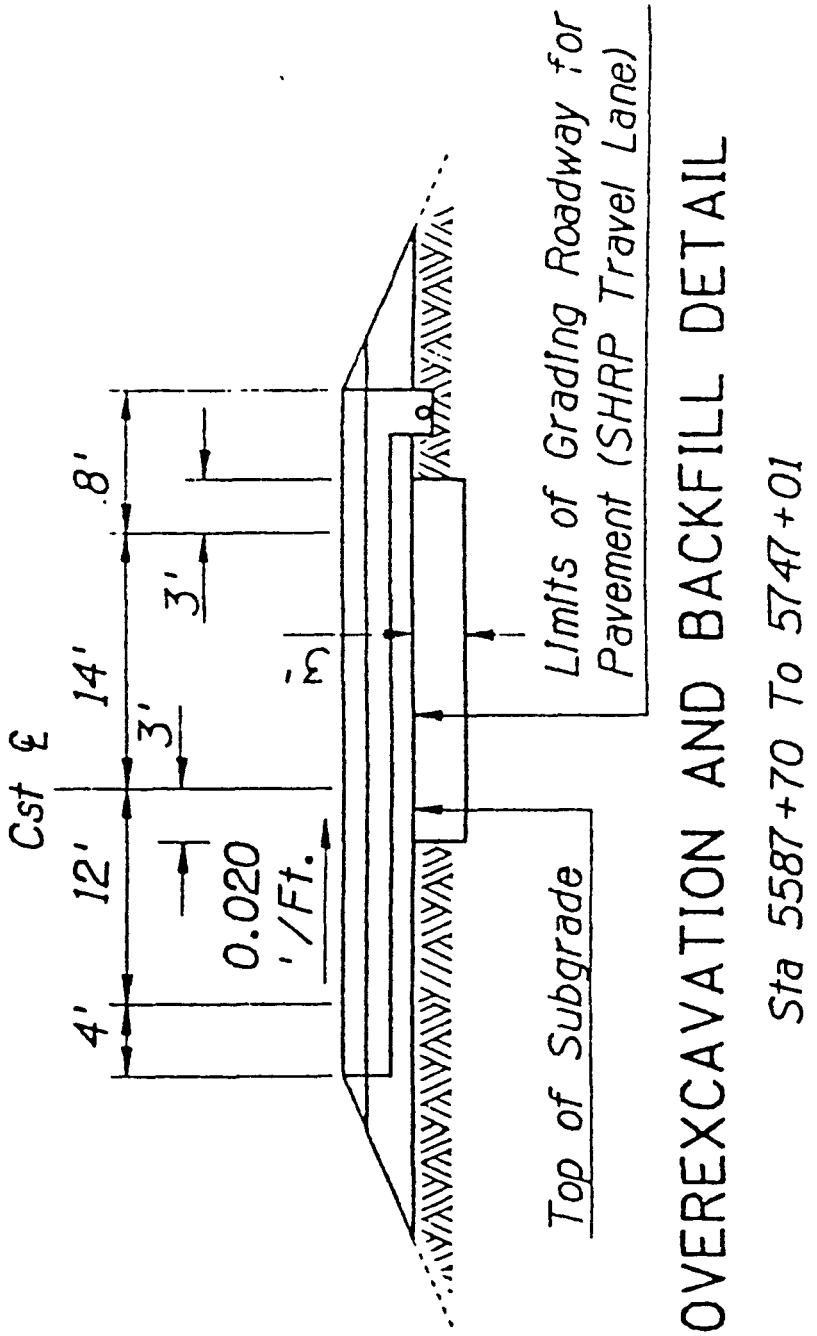
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Scott EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R SCOTT EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 4.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

_____

_____

_____

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[2]	[100.]
* 6.		[__]	[___.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [4]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__ __N]

*12. AGGREGATE COMBINATION (CALCULATED) [2.662]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [__.__ __U]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__ N]	[___.N]
15.	Coarse	[__ __]	[___.__]
16.	Coarse	[__ __]	[___.__]
17.	Coarse and Fine - Combined	[__ __]	[___.__]

18. POLISH VALUE OF COARSE AGGREGATES [__ N]
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARER D. FEOTH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1.022]

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises) (AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes) (AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm) (100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm) (AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm) (AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm) (200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R Scrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [2]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [__.__ N/A]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [__.__ N/A] NUMBER OF TESTS [__ __.]
5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [2.41 __] NUMBER OF SAMPLES [__ __.]
8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [__.__ N/A] NUMBER OF SAMPLES [__ __.]
11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [N/A.__]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [N/A.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [__N/A.__]

*16. NUMBER OF BLOWS [N/A]

*17. MARSHALL FLOW (Hundredths of an Inch) [__N/A__.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__ __N.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [__ __ __N.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [__N]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [N]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__N__.__]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R. SZROT EMPLOYER NCE DATE 2/13/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-19-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-19-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[__]	UNITED METRO #1	[45]	[60]	[__ __]
Plant 2	[__]	———	[__ __]	[__ __]	[__ __]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify ———

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF 500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.0]

7. PATB PLACEMENT LIFTS: Layer Number [__ __]

Nominal First Lift Placement Thickness (Inches) [4.6]

Nominal Second Lift Placement Thickness (Inches) [__.__]

Nominal Third Lift Placement Thickness (Inches) [__.__]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) AIR TEMP DURING PLACEMENT ~ 105°F. MC 250 PRIME COAT SHOT AT 0.50 GAL/YD² 6 DAYS PRIOR TO PAVING CONFUSION REGARDING TRANSITION. 1ST PASS WAS BUTT JOINT BUT LATER DECEIDED SHOULD BE TAPERED, THEREFORE TAPER WAS BLADED. AGGREGATE IN EDGE DRAIN WAS 2" LOW FOR MOST OF SECTION ONE AREA NEAR MIDDLE WAS 4" LOW. NO MAJOR PROBLEMS.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [0 4]
* SPS PROJECT CODE [0 2]
* TEST SECTION NO [2 3]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 8-1 9-9 3]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-1 9-9 3]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) ~[2 8 0]

5. LAYDOWN TEMPERATURES (°F) ESTIMATED
Mean..... [2 4 0.]
Minimum..... [__ __ __.]
Standard Deviation... [__ __.__]
Number of Tests ..... [__ __.]
Maximum .. .. [__ __ __.]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	15.0	[redacted]	[redacted]	[redacted]	[redacted]
7	B	Steel-Whl Tandem	__ __.__				
8	C	Steel-Whl Tandem	__ __.__				
9	D	Steel-Whl Tandem	__ __.__				
10	E	Pneumatic-Tired	__ __.__	__ __ __ __.			
11	F	Pneumatic-Tired	__ __.__	__ __ __ __.			
12	G	Pneumatic-Tired	__ __.__	__ __ __ __.			
13	H	Pneumatic-Tired	__ __.__				
14	I	Single-Drum Vibr.	__ __.__	[redacted]	__ __ __ __.	.__ __ __	__ __.__
15	J	Single-Drum Vibr.	__ __.__		__ __ __ __.	.__ __ __	__ __.__
16	K	Single-Drum Vibr.	__ __.__		__ __ __ __.	.__ __ __	__ __.__
17	L	Single-Drum Vibr.	__ __.__		__ __ __ __.	.__ __ __	__ __.__
18	M	Double-Drum Vibr.	__ __.__		__ __ __ __.	.__ __ __	__ __.__
19	N	Double-Drum Vibr.	__ __.__		__ __ __ __.	.__ __ __	__ __.__
20	O	Double-Drum Vibr.	__ __.__		__ __ __ __.	.__ __ __	__ __.__
21	P	Double-Drum Vibr.	__ __.__		__ __ __ __.	.__ __ __	__ __.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	NONE	N/A	N/A	N/A
24	Coverages	__ __	__ __.	__ __.	__ __.
	INTERMEDIATE				
25	Roller Code (A-Q)	NONE			
26	Coverages	__ __.	__ __	__ __.	__ __.
	FINAL				
27	Roller Code (A-Q)	A			
28	Coverages	__ 3.	__ __	__ __.	__ __.
29	Air Temperature (°F)	105	__ __ __	__ __ __	__ __ __.
30	Compacted Thickness (In)	4 2	__ __	__ __	__.__
31	Curing Period (Days)	23 __	__ __ __	__ __ __	__ __.__

PREPARER R Szrst EMPLOYER NCE DATE 2/3/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [31.1]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1939.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [_400.]

*5. Water (Pounds)..... [_232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__ __.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100._]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[__ __ __._]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[__ __ __._]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __._]
12.	Coarse	[__ __]	[__ __ __._]
13.	Coarse	[__ __]	[__ __ __._]
14.	Coarse and Fine	[__ __]	[__ __ __._]

FILED BY D. Scott [illegible] 7/22/91

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.	#57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6.	Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.		[__]	[___.]
* 8.		[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 30....	___
No. 00...	7
No. 00...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67 _]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65 _]

PREPARER R Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-12-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-13-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 3]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [0Z] * TEST SECTION NO. [23]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		

   Other (Specify)_____ 8

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6

   Other (Specify)_____ 7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [23]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

* 1. LANE WIDTH (Feet) [14.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.5]	[12.5]
* 5. PAVED SHOULDER WIDTH (Feet)	[4.]	[8.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[31.]	[31.]
7. SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8. SHOULDER BASE THICKNESS (Inches)	[4.0]	[4.0]

* 9. SUBSURFACE DRAINAGE TYPE [2.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [4.0]

12. SPACING OF LATERALS (Feet) [240.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]					
2	[06]	[23]	[_ _3.8]	_ _3.2	_ _4.2	_ _ _.2	DGAB
3	[05]	[31]	[_ _4.4]	_ _3.8	_ _5.3	_ _ _.3	PBTB
4	[03]	[04]	[_10.7]	_ _9.8	_11.3	_ _ _.3	PCCP
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
_+_ _ 5627+0	0 36 72 108 144	4.2 4.1 3.8 4.1 3.6	4.6 4.6 4.2 4.3 4.4	_._ _._ _._ _._ _._	10.7 10.7 11.2 11.0 10.9
_+_ _ 5628+0	0 36 72 108 144	4.1 3.8 4.0 3.9 3.5	4.7 5.3 4.6 4.6 4.6	_._ _._ _._ _._ _._	10.3 9.8 10.2 10.3 10.4
_+_ _ 5629+0	0 36 72 108 144	4.2 4.2 4.1 4.1 3.5	4.0 4.3 4.3 4.3 4.4	_._ _._ _._ _._ _._	10.8 10.4 10.4 10.4 10.6
_+_ _ 5630+0	0 36 72 108 144	4.1 3.8 4.0 4.0 3.2	3.8 4.1 4.2 4.2 4.4	_._ _._ _._ _._ _._	11.2 10.8 10.8 10.8 10.9
_+_ _ 5632+0	0 36 72 108 144	4.1 3.2 3.6 3.8 3.4	4.1 4.3 4.7 4.3 4.7	_._ _._ _._ _._ _._	10.9 10.8 10.6 10.7 10.7
_+_ _ 5633+0	0 36 72 108 144	4.0 3.8 3.7 4.0 3.5	4.4 4.6 4.8 4.6 4.7	_._ _._ _._ _._ _._	10.6 10.4 10.4 10.3 10.7
_+_ _	0 36 72 108 144	_._ _._ _._ _._ _._	_._ _._ _._ _._ _._	_._ _._ _._ _._ _._	_._ _._ _._ _._ _._
LAYER NUMBER[1]		__ __	__ __	__ __	__ __

[1] from Construction Data Sheet 4

PREPARER R Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

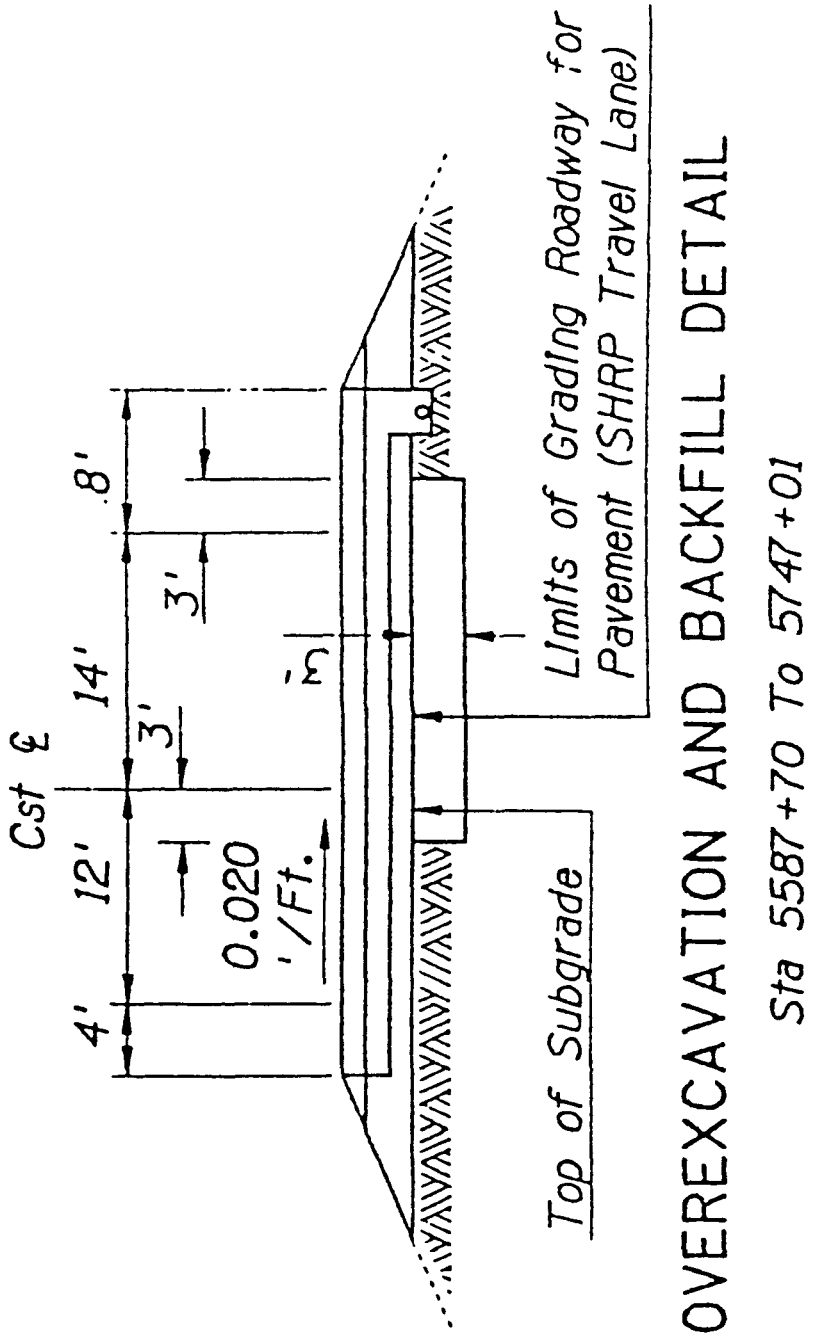
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Scrat EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 4.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Initial placement looked "Rocky" — sample tests failed — sand was added and reprocessed — test passed afterwards.

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[2]	[100]
* 6.		[__]	[___.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [N]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__N]

*12. AGGREGATE COMBINATION (CALCULATED) [2.662]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [__.__4]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__N]	[___.N]
15.	Coarse	[____]	[___.__]
16.	Coarse	[____]	[___.__]
17.	Coarse and Fine - Combined	[____]	[___.__]

18. POLISH VALUE OF COARSE AGGREGATES [__N]
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.022]
(AASHTO T228)

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm)
(100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm)
(200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R. Szaz EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [__]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2 NO SAMPLE

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [__.__ __ __]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [__.__ __ __] NUMBER OF TESTS [__ __.]
5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [__.__ __ __] NUMBER OF SAMPLES [__ __.]
8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [__.__ __ __] NUMBER OF SAMPLES [__ __.]
11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [__ __.__]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [__ __.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [__ __ __.__]

*16. NUMBER OF BLOWS [__ __]

*17. MARSHALL FLOW (Hundredths of an Inch) [__ __ __ __.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__ __ __.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [__ __ __ __.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [__ __]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [__]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__ __.__]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-19-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-19-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[ ]	UNITED METRO #1	[45]	[60]	[ ]
Plant 2	[ ]	———	[ ]	[ ]	[ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify ———

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF 500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [13.0]

7. PATB PLACEMENT LIFTS: Layer Number [ ]

Nominal First Lift Placement Thickness (Inches) [4.8]

Nominal Second Lift Placement Thickness (Inches) [ ]

Nominal Third Lift Placement Thickness (Inches) [ ]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) AIR TEMP DURING PLACEMENT ~ 95 °F. PRIME COAT (MC250) ON DGAB SHOT AT 0.50 GAL/YD² 6 DAYS PRIOR TO PAVING. ELECTRONIC GRADE CONTROL PROBLEM NEAR START OF SECTION. PAVER BACKED-UP AND RE-LAID A PORTION.

PREPARER D. FEITH EMPLOYER KCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO. [24]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-19-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-19-93]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) ~ [280.]

5. LAYDOWN TEMPERATURES (°F) Estimated
Mean..... [240]
Minimum..... [___]
Standard Deviation... [___]
Number of Tests .... [__.]
Maximum .. .. [___.]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	15.0				
7	B	Steel-Whl Tandem	___.__				
8	C	Steel-Whl Tandem	___.__				
9	D	Steel-Whl Tandem	___.__				
10	E	Pneumatic-Tired	___.__	____.			
11	F	Pneumatic-Tired	___.__	____.			
12	G	Pneumatic-Tired	___.__	____.			
13	H	Pneumatic-Tired	___.__				
14	I	Single-Drum Vibr.	___.__		____.	___	___.__
15	J	Single-Drum Vibr.	___.__		____.	___	___.__
16	K	Single-Drum Vibr.	___.__		____.	___	___.__
17	L	Single-Drum Vibr.	___.__		____.	___	___.__
18	M	Double-Drum Vibr.	___.__		____.	___	___.__
19	N	Double-Drum Vibr.	___.__		____.	___	___.__
20	O	Double-Drum Vibr.	___.__		____.	___	___.__
21	P	Double-Drum Vibr.	___.__		____.	___	___.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	NONE	N/A	N/A	N/A
24	Coverages	__	__ __.	__ __.	__ __.
	INTERMEDIATE				
25	Roller Code (A-Q)	NONE	__	__	__
26	Coverages	__ __	__ __	__ __.	__ __.
	FINAL				
27	Roller Code (A-Q)	A	__	__	__
28	Coverages	__ 3	__ __	__ __.	__ __.
29	Air Temperature (°F)	95	___	___.	___.
30	Compacted Thickness (In)	4 4	__ __	__ __	__.__
31	Curing Period (Days)	24 __	___ ___	___ ___	___.__

PREPARER R. SZAOT EMPLOYER NCE DATE 2/13/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
- Round Dowels..... 1
- Aggregate Interlock..... 2
- Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
- Paint and/or Grease..... 1
- Plastic..... 2
- Monel..... 3
- Stainless Steel..... 4
- Epoxy..... 5
- Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
- Preplaced on Baskets..... 1
- Mechanically Installed..... 2
- Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt ..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__11.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [063]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [31.6]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Bruce Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 900 MIX

*2. Coarse Aggregate (Pounds)..... [1826.]

*3. Fine Aggregate (Pounds)..... [1207.]

*4. Cement (Pounds)..... [__799.]

*5. Water (Pounds)..... [__292.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__ __.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[0.8]	40 oz/cy	[__ __ __.__]
*9.	ADMIXTURE #2	[__.__]		[__ __ __.__]
*10.	ADMIXTURE #3	[__.__]		[__ __ __.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __.__]
12.	Coarse	[__ __]	[__ __ __.__]
13.	Coarse	[__ __]	[__ __ __.__]
14.	Coarse and Fine	[__ __]	[__ __ __.__]

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 900 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__ __.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 30....	___
No. 00...	7
No. 00...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67 __]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65 __]

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-13-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-13-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 5]
Plant 2		[__ __ __]	[__ __ __]
Plant 3		[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [2]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		

   Other (Specify)_____ 8

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6

   Other (Specify)_____ 7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/12/93

February 1992

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [24]

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. LANE WIDTH (FEET) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5.	SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6.	TOTAL WIDTH (FEET)	[13.]	[19.]
*7.	PAVED WIDTH (FEET)	[4.]	[10.]
8.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23.]
9.	SURFACE THICKNESS (INCHES)	[8.5]	[8.5]
10.	SHOULDER BASE THICKNESS (INCHES)	[4.0]	[4.0]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[N.]
12.	SPACING OF LATERALS (FEET)		[N.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]				
2	[05]	[23]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
3	[03]	[01]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
4	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [__ __._ __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Scott EMPLOYER NCE DATE 5/6/94

SPS-1 CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. LAYER NUMBER (FROM SHEET 4) [3]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
*2.	Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[3]	[100.]
*3.	Crushed Slag... 4 Manufactured Lightweight... 5	[ ]	[.]
*4.	Other (Specify)... 6 _____	[ ]	[.]
	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
*5.	Natural Sand... 1	[1]	[76.]
*6.	Crushed or Manufactured Sand (From Crushed Gravel or	[2]	[24.]
*7.	Stone... 2 Recycled Concrete... 3 Other (Specify)... 4 _____	[ ]	[.]

*8. TYPE OF MINERAL FILLER [3]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4
Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

*9. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.701]

*10. Fine Aggregate (AASHTO T84 or ASTM C128) [2.655]

*11. Mineral Filler (AASHTO T100 or ASTM D854) [.]

*12. Aggregate Combination (Calculated) [2.679]

13. Effective Specific Gravity of Aggregate Combination (Calculated) [2.721]

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[01]	[27.]
15.	Coarse	[ ]	[.]
16.	Coarse	[ ]	[.]
17.	Coarse and Fine - Combined	[ ]	[.]

18. POLISH VALUE OF COARSE AGGREGATES [ ]
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

December 1991

SPS-1 CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [06]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [49]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.023]
(AASHTO T228)

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (POISES)
(AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (CENTISTOKES)
(AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A MM)
(100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (CM)
(AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (CM)
(AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°f (CM/MIN) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A MM)
(200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER D. Smith EMPLOYER AICF DATE 7/14/94

SPS-1 CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041) [2.536]

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.419] NUMBER OF TESTS [__1.]

5. MINIMUM [__.___] MAXIMUM [__.___]

6. STD. DEV. [__.___]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)

*7. MEAN [4.53_] NUMBER OF SAMPLES [__1.]

8. MINIMUM [__.___] MAXIMUM [__.___]

9. STD. DEV. [__.___]

PERCENT AIR VOIDS

*10. MEAN [4.6__] NUMBER OF SAMPLES [__1.]

11. MINIMUM [__.___] MAXIMUM [__.___]

12. STD. DEV. [__.___]

*13. VOIDS IN MINERAL AGGREGATE (PERCENT) [15.1]

*14. EFFECTIVE ASPHALT CONTENT (PERCENT) [__3.7]

*15. MARSHALL STABILITY (LBS) (AASHTO T245 OR ASTM D1559) [4434.__]

*16. NUMBER OF BLOWS [75]

*17. MARSHALL FLOW (HUNDREDTHS OF AN INCH) (AASHTO T245 OR ASTM D1559) [___8.]

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH) (AASHTO T246 OR ASTM 1561) [___N.]

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-1 CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. TYPE ASPHALT PLANT [__]

BATCH PLANT... 1 DRUM MIX PLANT... 2

OTHER (SPECIFY)... 3 _____

*4. TYPE OF ANTISTRIPPING AGENT USED [__ N]
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) _____

*5. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [N]

*6. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.) [__ __.N]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [10-06-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [10-20-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[__]	_____	[___]	[__]	[__] [__] [__]
Plant 2	[__]	_____	[___]	[__]	[__] [__] [__]
Plant 3	[__]	_____	[___]	[__]	[__] [__] [__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [16.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [___]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [___]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [___]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

10. AC SURFACE COURSE LIFT
    - Layer Number [3]
    - Nominal First Lift Placement Thickness (Inches) [3.0]
    - Nominal Second Lift Placement Thickness (Inches) [3.0]

11. SURFACE FRICTION COURSE (If Placed) 3RD LIFT 2.5
    - Layer Number [___]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ NN]
    - Surface Course [__ + __ NN]
    - Surface Friction Course [__ + __ NN]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    Between lanes.. 1 Within lane.. 2
    (specify offset from O/S feet) [12.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) NCE NOT PRESENT. NO PROBLEMS REPORTED.

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-1 CONSTRUCTION DATA
SHEET 10
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO [60]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [10-06-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [10-20-93]
*3. LAYER NUMBER [ ]

*4. MIXING TEMPERATURE (°F) [ ]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 290 Number of Tests ... 1.
Minimum..... Maximum ... .
Standard Deviation...

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr /Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	15.0				
7	B	Steel-Whl Tandem					
8	C	Steel-Whl Tandem					
9	D	Steel-Whl Tandem					
10	E	Pneumatic-Tired	20.0	45			
11	F	Pneumatic-Tired					
12	G	Pneumatic-Tired					
13	H	Pneumatic-Tired					
14	I	Single-Drum Vibr.					
15	J	Single-Drum Vibr.					
16	K	Single-Drum Vibr.					
17	L	Single-Drum Vibr.					
18	M	Double-Drum Vibr.	15.0		4400	45	4.5
19	N	Double-Drum Vibr.					
20	O	Double-Drum Vibr.					
21	P	Double-Drum Vibr.					
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	E	E	E	
24	Coverages	1	1	1.	.
	INTERMEDIATE				
25	Roller Code (A-Q)	M	M	M	
26	Coverages	5	3	5.	.
	FINAL				
27	Roller Code (A-Q)	A	A	A	
28	Coverages	5	5	5.	.
29	Air Temperature (°F)	~90	~90	~90	.
30	Compacted Thickness (In)	3.0	3.0	2.5	.
31	Curing Period (Days)	5	9	14	.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	___	___	___	___
Number of Measurements	___ ___	___ ___	___ ___	___ ___
Average (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Maximum (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Minimum (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Standard Deviation (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Layer Number	___ ___	___ ___	___ ___	___ ___

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE _____

3. NUCLEAR DENSITY GAUGE MODEL NUMBER _____

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER _____

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION ___ ___ ___ ___ ___

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 ___
Profile Index (Inches/Mile) ___ ___
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 ___
Height of Blanking Band (Inches) ___.___ ___
Cutoff Height (Inches) ___.___ ___

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) ____

PREPARER _____ EMPLOYER _____ DATE _____

December 1991

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET ____ OF ____

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
__+__ __						
__+__ __						
__+__ __						
__+__ __						
__+__ __						
__+__ __						
__+__ __						
LAYER NUMBER[1]						

[1] from Sheet 4

PREPARER _____ EMPLOYER DATE

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [__ __.__]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [__4]
Nominal Second Lift Placement Thickness (inches) [__ __]
Nominal Third Lift Placement Thickness (inches) [__ __]
Nominal Fourth Lift Placement Thickness (inches) [__ __]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Scott EMPLOYER NCE DATE 5/6/94

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [__ __]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Scott EMPLOYER NCE DATE 5/6/94

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1		0 + 0 0	+	
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

NOTES:

1. Indicate the type of subgrade section with one of the following:
   Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [60]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

PREPARER _____ EMPLOYER _____ DATE _____

December 1991

SPS-1 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

*1. LANE WIDTH (FEET) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

*3. SUBSURFACE DRAINAGE LOCATION [3.]
Continuous Along Test Section... 1 Intermittent... 2 None... 3

*4. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
*5. SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[3.]	[3.]
*6. TOTAL WIDTH (FEET)	[13.]	[19.]
*7. PAVED WIDTH (FEET)	[_4.]	[10.]
8. SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23.]
9. SURFACE THICKNESS (INCHES)	[_8.5]	[_8.5]
10. SHOULDER BASE THICKNESS (INCHES)	[_4.0]	[_4.0]
11. DIAMETER OF LONGITUDINAL DRAINPIPES (INCHES)		[N._]
12. SPACING OF LATERALS (FEET)		[_N_.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-1 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]				
2	[05]	[23]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
3	[03]	[01]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
4	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
11	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
12	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
13	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
14	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
15	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (FEET) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990.

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Szpot EMPLOYER NCE DATE 5/6/94

December 1991

SPS-1 CONSTRUCTION DATA SHEET 5 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

*1. LAYER NUMBER (FROM SHEET 4) [3]

		TYPE	PERCENT
	COMPOSITION OF COARSE AGGREGATE		
*2.	Crushed Stone... 1 Gravel... 2 Crushed Gravel... 3	[3]	[100.]
*3.	Crushed Slag... 4 Manufactured Lightweight... 5	[—]	[___.]
*4.	Other (Specify)... 6 _____	[—]	[___.]
	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
*5.	Natural Sand... 1	[1]	[_76]
*6.	Crushed or Manufactured Sand (From Crushed Gravel or	[2]	[_24.]
*7.	Stone... 2 Recycled Concrete... 3 Other (Specify)... 4 _____	[—]	[___.]

*8. TYPE OF MINERAL FILLER [3]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4
Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

*9.	Coarse Aggregate (AASHTO T85 or ASTM C127)	[2.701]
*10.	Fine Aggregate (AASHTO T84 or ASTM C128)	[2.655]
*11.	Mineral Filler (AASHTO T100 or ASTM D854)	[_.__4]
*12.	Aggregate Combination (Calculated)	[2.679]
13.	Effective Specific Gravity of Aggregate Combination (Calculated)	[2.721]

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[01]	[_21.___]
15.	Coarse	[__ __]	[___.___]
16.	Coarse	[__ __]	[___.___]
17.	Coarse and Fine - Combined	[__ __]	[___.___]

18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319) _4.

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-1 CONSTRUCTION DATA SHEET 6 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [06]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [49]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1.023]

GENERAL ASPHALT CEMENT PROPERTIES (If available from supplier)

5. VISCOSITY OF ASPHALT AT 140°F (POISES) (AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (CENTISTOKES) (AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (TENTHS OF A MM) (100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (CM) (AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (CM) (AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT AT 39.2°f (CM/MIN) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (TENTHS OF A MM) (200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

December 1991

SPS-1 CONSTRUCTION DATA SHEET 7 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [6 L]

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) (AASHTO T209 OR ASTM D2041) [2.542]

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.427] NUMBER OF TESTS [__1.]

5. MINIMUM [__.___] MAXIMUM [__.___]

6. STD. DEV. [__.___]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX) (AASHTO T164 OR ASTM D2172)

*7. MEAN [4.48_] NUMBER OF SAMPLES [__1.]

8. MINIMUM [__.___] MAXIMUM [__.___]

9. STD. DEV. [__.___]

PERCENT AIR VOIDS

*10. MEAN [4.7__] NUMBER OF SAMPLES [__1.]

11. MINIMUM [__.___] MAXIMUM [__.___]

12. STD. DEV. [__.___]

*13. VOIDS IN MINERAL AGGREGATE (PERCENT) [15.1]

*14. EFFECTIVE ASPHALT CONTENT (PERCENT) [__3.7]

*15. MARSHALL STABILITY (LBS) (AASHTO T245 OR ASTM D1559) [4434.__]

*16. NUMBER OF BLOWS [75]

*17. MARSHALL FLOW (HUNDREDTHS OF AN INCH) (AASHTO T245 OR ASTM D1559) [___8.]

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25 MM OF WIDTH) (AASHTO T246 OR ASTM 1561) [___N.]

PREPARER D. FEITH EMPLOYER NCE DATE 3/14/94

SPS-1 CONSTRUCTION DATA SHEET 8 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [6L]

*1. LAYER NUMBER (FROM SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
SAMPLES COMPACTED IN LABORATORY... 1
SAMPLES TAKEN FROM TEST SECTION... 2

*3. TYPE ASPHALT PLANT [__]

BATCH PLANT... 1 DRUM MIX PLANT... 2

OTHER (SPECIFY)... 3 _____

*4. TYPE OF ANTISTRIPPING AGENT USED [__ N]
(SEE TYPE CODES, TABLE A.21)
OTHER (SPECIFY) _____

*5. AMOUNT OF ANTISTRIPPING AGENT USED LIQUID OR SOLID CODE [N]

*6. (If liquid, enter code 1, and amount as percent of asphalt cement weight. If solid, enter code 2 and amount as percent of aggregate weight.) [__ __.N]

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-1 CONSTRUCTION DATA SHEET 9 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [10-06-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [10-20-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Numbers
Plant 1	[__]	_____	[__ __ __]	[__ __]	[__] [__] [__]
Plant 2	[__]	_____	[__ __ __]	[__ __]	[__] [__] [__]
Plant 3	[__]	_____	[__ __ __]	[__ __]	[__] [__] [__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify_____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER _____

6. SINGLE PASS LAYDOWN WIDTH (Feet) [16.0]

7. ATB PLACEMENT LIFTS
   - Layer Number [___]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]
   - Nominal Third Lift Placement Thickness (Inches) [__.__]
   - Nominal Fourth Lift Placement Thickness (Inches) [__.__]

8. PATB PLACEMENT LIFTS
   - Layer Number [___]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

9. AC BINDER COURSE LIFT
   - Layer Number [___]
   - Nominal First Lift Placement Thickness (Inches) [__.__]
   - Nominal Second Lift Placement Thickness (Inches) [__.__]

10. AC SURFACE COURSE LIFT
    - Layer Number [_3]
    - Nominal First Lift Placement Thickness (Inches) [2.0]
    - Nominal Second Lift Placement Thickness (Inches) [3.0]

11. SURFACE FRICTION COURSE (If Placed) 3RD LIFT 2.5
    - Layer Number [___]
    - Nominal Placement Thickness (Inches) [__.__]

12. TEST SECTION STATION OF TRANSVERSE JOINTS (within test section)
    - Binder Course [__ + __ N]
    - Surface Course [__ + __ N]
    - Surface Friction Course [__ + __ N]

13. LOCATION OF LONGITUDINAL SURFACE JOINT [1]
    Between lanes.. 1 Within lane.. 2
    (specify offset from O/S feet) [12.0]

14. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) NCE NOT PRESENT. NO PROBLEMS REPORTED

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-1 CONSTRUCTION DATA
SHEET 10
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO [6L]

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [10-06-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [10-20-93]
*3. LAYER NUMBER [3]

*4. MIXING TEMPERATURE (°F) [__U]

5. LAYDOWN TEMPERATURES (°F)
Mean..... 290 Number of Tests .... .. 1.
Minimum..... ___ Maximum .. . ___.
Standard Deviation... __.__

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr /Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	150				
7	B	Steel-Whl Tandem	__.__				
8	C	Steel-Whl Tandem	__.__				
9	D	Steel-Whl Tandem	__.__				
10	E	Pneumatic-Tired	20.0	___U.			
11	F	Pneumatic-Tired	__.__	____.			
12	G	Pneumatic-Tired	__.__	____.			
13	H	Pneumatic-Tired	__.__				
14	I	Single-Drum Vibr.	__.__		____.	___.	__.__
15	J	Single-Drum Vibr.	__.__		____.	___.	__.__
16	K	Single-Drum Vibr.	__.__		____.	___.	__.__
17	L	Single-Drum Vibr.	__.__		____.	___.	__.__
18	M	Double-Drum Vibr.	150		___U.	__U.	__.U
19	N	Double-Drum Vibr.	__.__		____.	___.	__.__
20	O	Double-Drum Vibr.	__.__		____.	___.	__.__
21	P	Double-Drum Vibr.	__.__		____.	___.	__.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	E	E	E	__
24	Coverages	__1	__1	__1	__.__
	INTERMEDIATE				
25	Roller Code (A-Q)	M	M	M	__
26	Coverages	__5	__5	__5	__.__
	FINAL				
27	Roller Code (A-Q)	A	A	A	__
28	Coverages	__5	__5	__5	__.__
29	Air Temperature (°F)	~90	~90	~90	___.
30	Compacted Thickness (In)	30	30	25	__.__
31	Curing Period (Days)	__5__	__9__	___U	__.__

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-1 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS DENSITY AND PROFILE DATA	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [6 1]

1. NUCLEAR DENSITY MEASUREMENTS

LAYER TYPE	ATB	Binder Course	Surface Course	Surface Friction Layer
Measurement Method (A, B, C)[1]	___	___	___	___
Number of Measurements	___ ___	___ ___	___ ___	___ ___
Average (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Maximum (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Minimum (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Standard Deviation (pcf)	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___	___ ___ ___.___
Layer Number	___ ___	___ ___	___ ___	___ ___

[1]Measurement Method Backscatter... A Direct Transmission... B Air Gap... C

2. MANUFACTURER OF NUCLEAR DENSITY GAUGE _____

3. NUCLEAR DENSITY GAUGE MODEL NUMBER _____

4. NUCLEAR DENSITY GAUGE IDENTIFICATION NUMBER _____

5. NUCLEAR GAUGE COUNT RATE FOR STANDARDIZATION ___ ___ ___ ___ ___

6. PROFILOGRAPH MEASUREMENTS

Profilograph Type California... 1 Rainhart... 2 ___
Profile Index (Inches/Mile) ___ ___
Interpretation Method Manual.. 1 Mechanical.. 2 Computer.. 3 ___
Height of Blanking Band (Inches) ___.___ ___
Cutoff Height (Inches) ___.___ ___

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) ___

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 12 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

LAYER THICKNESS MEASUREMENTS (Inches) SHEET ____ OF ____

STATION NUMBER	OFFSET (Inches)	DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	DENSE GRADED ASPHALT TREATED BASE	SURFACE AND BINDER	SURFACE FRICTION LAYER
__+__ __						
__+__ __						
__+__ __						
__+__ __						
__+__ __						
__+__ __						
__+__ __						
LAYER NUMBER[1]		__ __	__ __	__ __	__ __	__ __

[1] from Sheet 4

PREPARER _____ EMPLOYER _____ DATE _____

December 1991

SPS-1 CONSTRUCTION DATA SHEET 13 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (TONS) [__ __.__]

*6. LIFT THICKNESSES
Nominal First Lift Placement Thickness (inches) [__4]
Nominal Second Lift Placement Thickness (inches) [__ __]
Nominal Third Lift Placement Thickness (inches) [__ __]
Nominal Fourth Lift Placement Thickness (inches) [__ __]

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) Initial material too "Rocky" — SAND added and reprocessed — Samples then passed

PREPARER R. Scott EMPLOYER NCE DATE 5/6/94

SPS-1 CONSTRUCTION DATA SHEET 14 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (TONS) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

*7. TYPICAL LIFT THICKNESS (INCHES) [__ __]
(For Fill Sections Only)

DENSITY DATA IS RECORDED ON SAMPLING DATA SHEET 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Scott EMPLOYER NCE DATE 5/6/94

SPS-1 CONSTRUCTION DATA SHEET 15 CUT-FILL SECTION LOCATIONS	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. [6 L]

ORDER	*1 CUT-FILL[1]	REFERENCE PROJECT STATION NUMBER		*4 TEST SECTION NO
		*2 START	*3 END	
1		0 + 0 0	+	
2		+	+	
3		+	+	
4		+	+	
5		+	+	
6		+	+	
7		+	+	
8		+	+	
9		+	+	
10		+	+	
11		+	+	
12		+	+	
13		+	+	
14		+	+	
15		+	+	
16		+	+	
17		+	+	
18		+	+	
19		+	+	
20		+	+	
21		+	+	
22		+	+	
23		+	+	
24		+	+	
25		+	+	

NOTES:

1. Indicate the type of subgrade section with one of the following: Cut... 1 Fill... 2

2. A given Test Section No. will be repeated if both cut and fill sections exist within the test section.

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 16 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [61]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-1 CONSTRUCTION DATA SHEET 17 MISCELLANEOUS CONSTRUCTION NOTES AND COMMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [6a 1]

Provide any miscellaneous comments and notes concerning construction operations which may have an influence on the ultimate performance of the test sections or which may cause undesired performance differences to occur between test sections. Also include any quality control measurements or data for which space is not provided on other forms. Provide an indication of the basis for such measurements, such as an ASTM, AASHTO, or Agency standard test designation.

PREPARER EMPLOYER DATE

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

		INSIDE SHOULDER	OUTSIDE SHOULDER
* 1.	LANE WIDTH (Feet)		[14.]
2.	MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)		[1.]
	SHOULDER DATA		
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]	[12.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[__4.]	[__8.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[__8.0]	[__8.0]
8.	SHOULDER BASE THICKNESS (Inches)	[__6.0]	[__6.0]
* 9.	SUBSURFACE DRAINAGE TYPE No Subsurface Drainage... 1 Longitudinal Drains... 2 Transverse Drains... 3 Drainage Blanket... 4 Well System... 5 Drainage Blanket with Longitudinal Drains... 6 Other (Specify)... 7 _____		[1.]
*10.	SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section... 1 Intermittent... 2		[__.]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (Inches)		[__ __.__]
12.	SPACING OF LATERALS (Feet)		[__ __ __.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]
2	[05]	[23]	[_ _6.0]	_ _5.4	_ _6.5	_ _ _.2
3	[03]	[04]	[_ _8.2]	_ _7.7	_ _8.9	_ _ _.2
4	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._

DGAB
PCCP

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From & OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— 6.4	— — . —	— — . —	— 8.2
	— 3 6	— 6.0	— — . —	— — . —	— 8.3
	— 7 2	— 6.2	— — . —	— — . —	— 8.0
5688+0	1 0 8	— 6.0	— — . —	— — . —	— 8.1
	1 4 4	— 5.9	— — . —	— — . —	— 8.2
—+— —	— — 0	— 6.2	— — . —	— — . —	— 8.0
	— 3 6	— 5.9	— — . —	— — . —	— 8.4
	— 7 2	— 6.1	— — . —	— — . —	— 8.2
5689+0	1 0 8	— 6.0	— — . —	— — . —	— 8.3
	1 4 4	— 5.8	— — . —	— — . —	— 8.4
—+— —	— — 0	— 6.4	— — . —	— — . —	— 8.4
	— 3 6	— 6.0	— — . —	— — . —	— 8.6
	— 7 2	— 6.1	— — . —	— — . —	— 8.4
5690+0	1 0 8	— 6.4	— — . —	— — . —	— 8.4
	1 4 4	— 6.0	— — . —	— — . —	— 8.3
—+— —	— — 0	— 6.2	— — . —	— — . —	— 8.0
	— 3 6	— 6.0	— — . —	— — . —	— 8.3
	— 7 2	— 6.2	— — . —	— — . —	— 8.2
5692+0	1 0 8	— 6.1	— — . —	— — . —	— 8.3
	1 4 4	— 5.8	— — . —	— — . —	— 8.6
—+— —	— — 0	— 6.1	— — . —	— — . —	— 8.0
	— 3 6	— 6.0	— — . —	— — . —	— 8.2
	— 7 2	— 6.1	— — . —	— — . —	— 8.2
5693+0	1 0 8	— 6.1	— — . —	— — . —	— 8.3
	1 4 4	— 5.9	— — . —	— — . —	— 8.3
—+— —	— — 0	— 6.2	— — . —	— — . —	— 8.2
	— 3 6	— 6.0	— — . —	— — . —	— 8.4
	— 7 2	— 6.4	— — . —	— — . —	— 8.2
5694+0	1 0 8	— 6.4	— — . —	— — . —	— 7.9
	1 4 4	— 5.9	— — . —	— — . —	— 8.3
—+— —	— — 0	— 6.5	— — . —	— — . —	— 7.7
	— 3 6	— 6.1	— — . —	— — . —	— 7.9
	— 7 2	— 6.2	— — . —	— — . —	— 8.0
5695+0	1 0 8	— 6.0	— — . —	— — . —	— 8.3
	1 4 4	— 5.4	— — . —	— — . —	— 8.2
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

		TYPE	PERCENT
*5.	STABILIZING AGENT 1	[__]	[N/A]
*6.	STABILIZING AGENT 2	[__]	[__.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

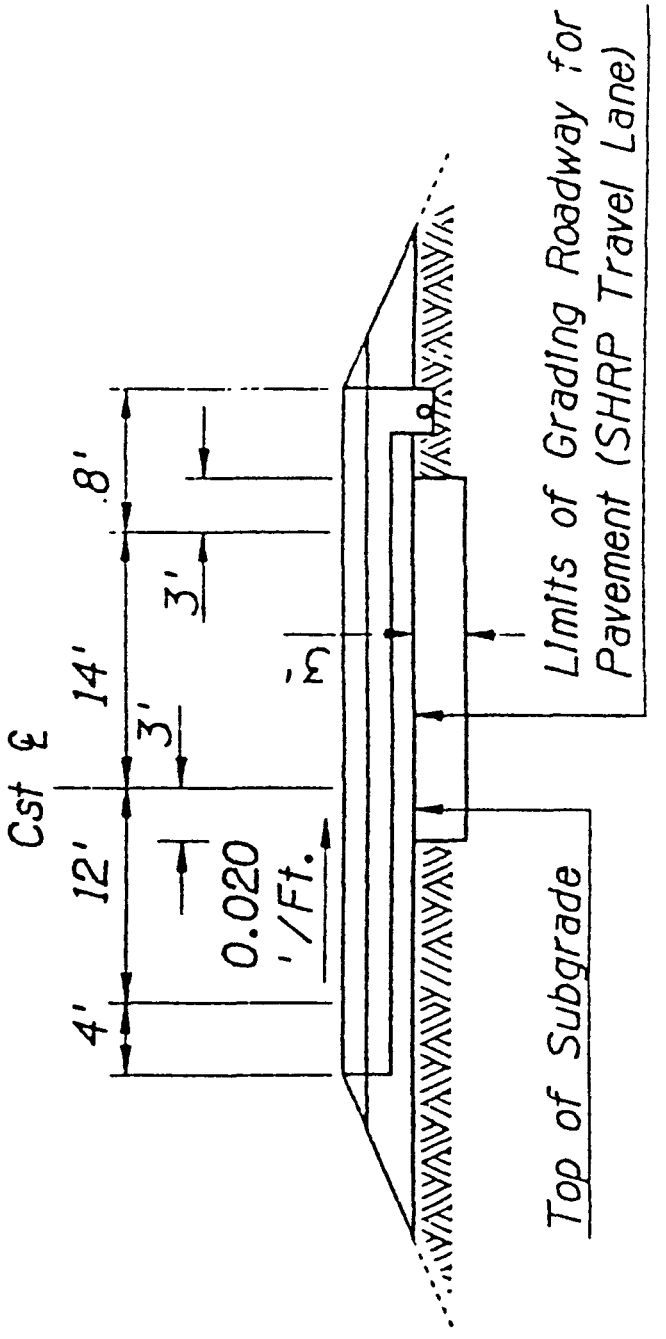
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Szwot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[5 3]~~ 62



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Sehot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 6.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Senor EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[13]~~ 62

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [_13.5]

3. (RANDOM JOINT SPACING, IF ANY: 14-13-15-12)

* 4. SKEWNESS OF JOINTS (ft/lane) 2'/12' lane [2.3]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [2]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [__.__ N]

* 7. DOWEL SPACING (Inches) [__ __.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__ __.__]

9. DOWEL LENGTH (Inches) [__ __.]

10. DOWEL COATING [__]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [__]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [__]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [__]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Smith EMPLOYER NCE DATE 10/8/93

February 1992

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__10]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [31.0]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARED BY Brian Burnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) STATE 550 MIX

*2. Coarse Aggregate (Pounds)..... [1980.]

*3. Fine Aggregate (Pounds)..... [1311.]

*4. Cement (Pounds)..... [_400.]

*5. Water (Pounds)..... [_225.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

PREPARER R. Sarot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [0Z] * TEST SECTION NO. [53] ~~62~~

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP STATE 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer 3/4"	[3]	[60.]
* 3. #4 Pioneer 1½"	[3]	[40.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. HASSAYAMPA / Palmer – ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	100
1".... ...	73
7/8".....	___
3/4".....	47
5/8".....	___
1/2".....	16
3/8".. ...	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARED R. Stark EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-09-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-09-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 3]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Baske:..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

February 1992

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[53]~~ 62

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound	1	Burlap-Polyethylene Blanket	5
Burlap Curing Blankets	2	Cotton Mat Curing	6
Waterproof Paper Blankets	3	Hay	7
White Polyethylene Sheeting	4		
Other (Specify)_____	8		

4. TEXTURING [1]

Tine	1	Grooved Float	4
Broom	2	Astro Turf	5
Burlap Drag	3	None	6
Other (Specify)_____	7		

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[32]~~ 62

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]
2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]
3. PROFILE INDEX (Inches/Mile) [__ __]
4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]
5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]
6. CUTOFF HEIGHT (Inches) [__.__ __]
7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]
8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]
10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]
*11. REASON FOR GRINDING [__]
    Elimination of Faulting... 1 Elimination of Slab Warping... 2
    Improve Skid Resistance... 3
    Restoration of Transverse Drainage Slope... 4
    Correction of Construction Deficiencies...5
    Other (Specify)... 6 _____
12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]
13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]
14. AVERAGE GROOVE WIDTH (Inches) [__ .__]
15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [54] 63

* 1.	LANE WIDTH (Feet)		[14.]
2.	MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)		[1.]
	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]	[17.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[_4.]	[_8.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[31.]	[31.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[_8.0]	[_8.0]
8.	SHOULDER BASE THICKNESS (Inches)	[_4.0]	[_4.0]
* 9.	SUBSURFACE DRAINAGE TYPE No Subsurface Drainage... 1 Longitudinal Drains... 2 Transverse Drains... 3 Drainage Blanket... 4 Well System... 5 Drainage Blanket with Longitudinal Drains... 6 Other (Specify)... 7 _____		[2.]
*10.	SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section... 1 Intermittent... 2		[1.]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (Inches)		[_4.0]
12.	SPACING OF LATERALS (Feet)		[200.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]					
2	[06]	[23]	[_ _3.8]	_ _3.0	_ _5.3	_ _ _.4	DGAB
3	[05]	[31]	[_ _4.3]	_ _3.8	_ _4.9	_ _ _.2	PBTB
4	[03]	[04]	[_ _8.2]	_ _7.6	_ _9.6	_ _ _.4	PCCP
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER B. Szrot EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— 4.2	— 3.8	— — . —	— 8.6
	— 3 6	— 3.7	— 4.2	— — . —	— 8.3
	— 7 2	— 4.0	— 4.1	— — . —	— 8.2
5697+50	1 0 8	— 4.2	— 4.2	— — . —	— 7.8
	1 4 4	— 3.8	— 4.4	— — . —	— 7.7
—+— —	— — 0	— 4.9	— 4.0	— — . —	— 8.4
	— 3 6	— 4.0	— 4.1	— — . —	— 8.4
	— 7 2	— 4.1	— 4.1	— — . —	— 8.3
5698+50	1 0 8	— 4.1	— 4.2	— — . —	— 7.9
	1 4 4	— 3.8	— 4.4	— — . —	— 8.0
—+— —	— — 0	— 4.0	— 4.3	— — . —	— 8.2
	— 3 6	— 3.8	— 4.0	— — . —	— 8.5
	— 7 2	— 4.0	— 4.2	— — . —	— 8.0
5699+50	1 0 8	— 4.1	— 4.2	— — . —	— 7.9
	1 4 4	— 3.7	— 4.4	— — . —	— 8.2
—+— —	— — 0	— 3.8	— 4.2	— — . —	— 8.0
	— 3 6	— 3.5	— 4.2	— — . —	— 8.0
	— 7 2	— 3.5	— 4.2	— — . —	— 7.9
5701+50	1 0 8	— 3.7	— 4.2	— — . —	— 7.9
	1 4 4	— 3.5	— 4.6	— — . —	— 7.7
—+— —	— — 0	— 3.7	— 4.4	— — . —	— 7.9
	— 3 6	— 3.4	— 4.2	— — . —	— 8.3
	— 7 2	— 3.6	— 4.1	— — . —	— 8.3
5702+50	1 0 8	— 3.6	— 4.1	— — . —	— 7.9
	1 4 4	— 3.7	— 4.4	— — . —	— 7.9
—+— —	— — 0	— 3.4	— 4.4	— — . —	— 7.9
	— 3 6	— 3.2	— 4.3	— — . —	— 8.2
	— 7 2	— 3.2	— 4.2	— — . —	— 8.3
5703+50	1 0 8	— 3.5	— 4.3	— — . —	— 7.9
	1 4 4	— 3.0	— 4.7	— — . —	— 7.8
—+— —	— — 0	— 5.3	— 4.6	— — . —	— 7.9
	— 3 6	— 5.0	— 4.6	— — . —	— 7.7
	— 7 2	— 5.0	— 4.6	— — . —	— 7.7
5704+50	1 0 8	— 5.2	— 4.7	— — . —	— 7.6
	1 4 4	— 4.9	— 4.9	— — . —	— 7.6
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. Szpot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N/A.__]
*6. STABILIZING AGENT 2	[__]	[__/__.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

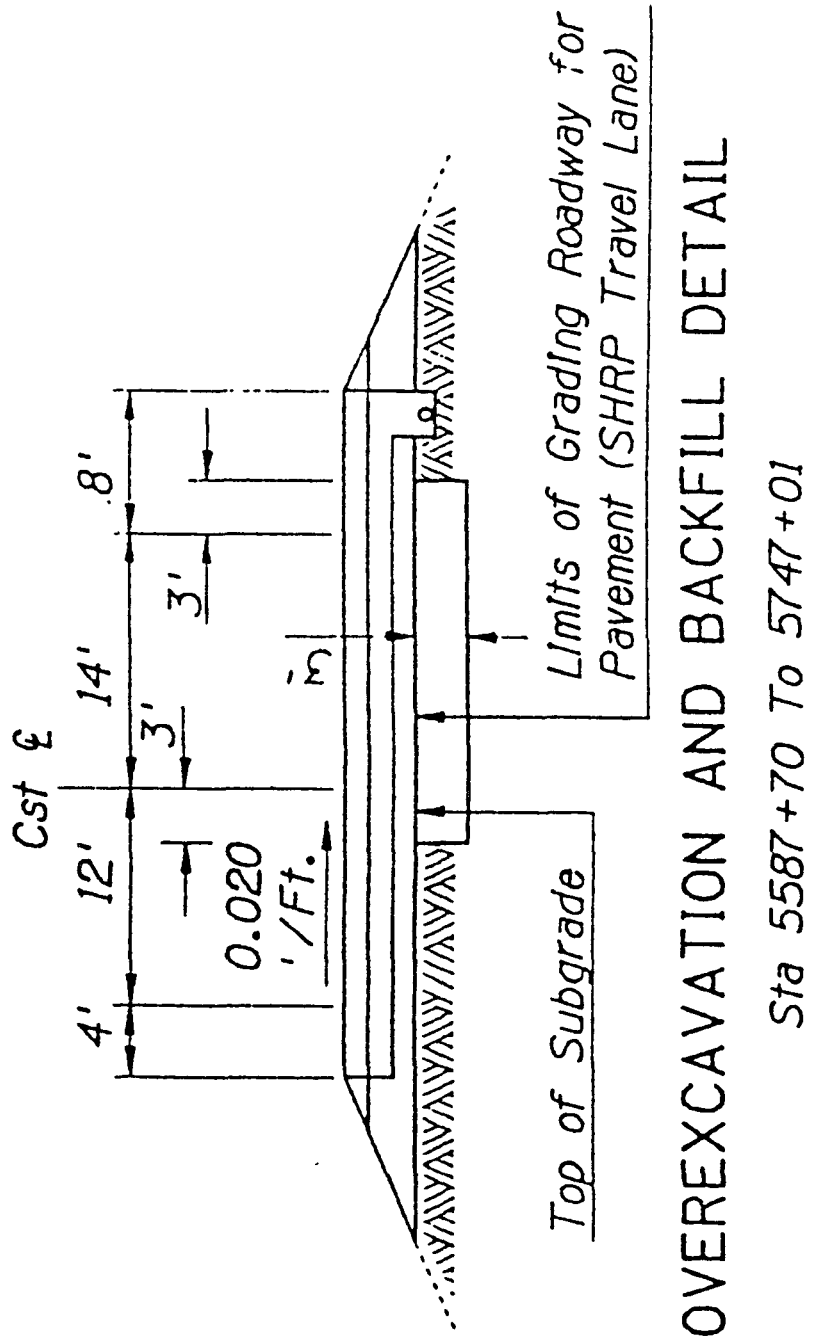
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Scott EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[5 4]~~ 63



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Sroot EMPLOYER NCE DATE 2/23/94

DRAFT

February 1992

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [07-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__4.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) 8/5 - SAmple tests out on 3/8" Sieve - SAND WAS Added And Reprocessed

PREPARER Mike Fellin EMPLOYER NCE DATE 7/19/93

KMS - 2/13/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[2]	[100.]
* 6.		[__]	[___.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [N]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__N]

*12. AGGREGATE COMBINATION (CALCULATED) [2.662]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [__.__4]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__N]	[___.N]
15.	Coarse	[____]	[___.__]
16.	Coarse	[____]	[___.__]
17.	Coarse and Fine - Combined	[____]	[___.__]

18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319) [__N]

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1.022]

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises) (AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes) (AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm) (100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm) (AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm) (AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm) (200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R Scrot EMPLOYER NCE DATE 2/13/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [54] 63

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [2]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [__.N/A_]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [__.N/A] NUMBER OF TESTS [__ __.]
5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [2.32 __] NUMBER OF SAMPLES [__ 1.]
8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [__.N/A] NUMBER OF SAMPLES [__ __.]
11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [N/A.__]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [N/A.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [__N/A__.__]

*16. NUMBER OF BLOWS [N/A]

*17. MARSHALL FLOW (Hundredths of an Inch) [__ N/A __.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N/A.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [__ __N/A.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [N]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [N]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__ N.__]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R. Szmt EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [54] 63

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-20-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-20-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[ ]	UNITED METRO #1	[45]	[60]	[ ]
Plant 2	[ ]		[ ]	[ ]	[ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify _____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF-500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.3]

7. PATB PLACEMENT LIFTS: Layer Number [ ]

Nominal First Lift Placement Thickness (Inches) [4.6]

Nominal Second Lift Placement Thickness (Inches) [.]

Nominal Third Lift Placement Thickness (Inches) [.]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) AIR TEMP DURING PLACEMENT ~ 100°F. DRAIN DOWN OCCURING, RESULTING IN CLUMPS WHICH WERE REMOVED BY HAND. NO PROBLEMS.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO. ~~[54]~~ 63

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-20-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-20-93]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) ~ [280.]

5. LAYDOWN TEMPERATURES (°F) ESTIMATED
Mean..... [240] Number of Tests ..... [__.]
Minimum..... [___] Maximum ..... [___.]
Standard Deviation... [___]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	15.0	[redacted]	[redacted]	[redacted]	[redacted]
7	B	Steel-Whl Tandem	___.				
8	C	Steel-Whl Tandem	___.				
9	D	Steel-Whl Tandem	___.				
10	E	Pneumatic-Tired	___.	____.			
11	F	Pneumatic-Tired	___.	____.			
12	G	Pneumatic-Tired	___.	____.			
13	H	Pneumatic-Tired	___.				
14	I	Single-Drum Vibr.	___.	[redacted]	____.	___.	___.
15	J	Single-Drum Vibr.	___.		____.	___.	___.
16	K	Single-Drum Vibr.	___.		____.	___.	___.
17	L	Single-Drum Vibr.	___.		____.	___.	___.
18	M	Double-Drum Vibr.	___.		____.	___.	___.
19	N	Double-Drum Vibr.	___.		____.	___.	___.
20	O	Double-Drum Vibr.	___.		____.	___.	___.
21	P	Double-Drum Vibr.	___.		____.	___.	___.
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	NONE	N/A	N/A	N/A
24	Coverages	___.	___.	___.	___.
	INTERMEDIATE				
25	Roller Code (A-Q)	NONE			
26	Coverages	___.	___.	___.	___.
	FINAL				
27	Roller Code (A-Q)	A			
28	Coverages	3	___.	___.	___.
29	Air Temperature (°F)	100	___.	___.	___.
30	Compacted Thickness (In)	4.3	___.	___.	___.
31	Curing Period (Days)	17	___.	___.	___.

PREPARER R. Scott EMPLOYER NCC DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [13.5]

3. (RANDOM JOINT SPACING, IF ANY: 14-13-15-12)

* 4. SKEWNESS OF JOINTS (ft/lane) 2'/12' lane [2.3]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [2]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [__.__ N]

* 7. DOWEL SPACING (Inches) [__ N]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__ N]

9. DOWEL LENGTH (Inches) [__ N]

10. DOWEL COATING [N]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [N]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [N]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __ 8.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.7]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Bacon EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) STATE 550 mix

*2. Coarse Aggregate (Pounds)..... [1980.]

*3. Fine Aggregate (Pounds)..... [1311.]

*4. Cement (Pounds)..... [400.]

*5. Water (Pounds)..... [225.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___.__]

(See Cement Admixtur. Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

PREPARER R Szot EMPLOYER NCE DATE 2/23/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer 3/4"	[3]	[60.]
* 3. #4 Pioneer 1½"	[3]	[40.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	100
1".....	73
7/8".....	___
3/4".....	47
5/8".....	___
1/2".....	16
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	81
No. 16....	71
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67 __]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65 __]

PREPARED P Grant EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-09-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-09-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 4]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound	1	Burlap-Polyethylene Blanket	5
Burlap Curing Blankets	2	Cotton Mat Curing	6
Waterproof Paper Blankets	3	Hay	7
White Polyethylene Sheeting	4		
Other (Specify)_____	8*		

4. TEXTURING [1]

Tine	1	Grooved Float	4
Broom	2	Astro Turf	5
Burlap Drag	3	None	6
Other (Specify)_____	7		

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[54]~~ 63

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[35]~~ 64

* 1. LANE WIDTH (Feet) [12.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]5	[19.]5
* 5.	PAVED SHOULDER WIDTH (Feet)	[4.]	[10.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[31.]	[31.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8.	SHOULDER BASE THICKNESS (Inches)	[4.0]	[4.0]

* 9. SUBSURFACE DRAINAGE TYPE [2]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [1.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [4.0]

12. SPACING OF LATERALS (Feet) [200.]

PREPARER R. Scrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]	
2	[06]	[23]	[_4.4]	_4.2	_4.7	___.1	DGAB
3	[05]	[31]	[_3.8]	_3.5	_4.2	___.2	ABTB
4	[03]	[04]	[10.8]	10.2	11.8	___.5	PCCP
5	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
6	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
7	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
8	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
9	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	
10	[__ __]	[__ __]	[_ _ _._]	_ _ _._	_ _ _._	_ _ _._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER B. SZROT EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 64

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
_+_ _ 5707+0	0 36 22 108 144	4.6 4.4 4.3 4.6 4.3	3.6 3.5 3.6 3.7 4.1	._ ._ ._ ._ ._	11.6 11.5 11.5 11.3 11.2
_+_ _ 5708+0	0 36 22 108 144	4.6 4.3 4.6 4.2 4.2	3.6 3.6 3.7 3.7 4.2	._ ._ ._ ._ ._	11.8 11.6 11.5 11.2 10.9
_+_ _ 5709+0	0 36 22 108 144	4.6 4.2 4.6 4.6 4.6	3.8 4.0 3.8 3.8 4.0	._ ._ ._ ._ ._	10.4 10.4 10.4 10.2 10.2
_+_ _ 5710+0	0 36 22 108 144	4.4 4.2 4.3 4.4 4.3	3.7 3.7 3.5 3.5 3.7	._ ._ ._ ._ ._	10.8 10.9 10.9 10.6 10.7
_+_ _ 5711+0	0 36 22 108 144	4.3 4.2 4.3 4.4 4.3	4.0 4.0 3.8 3.7 4.1	._ ._ ._ ._ ._	10.6 10.4 10.4 10.3 10.3
_+_ _	0 36 22 108 144	._ ._ ._ ._ ._	._ ._ ._ ._ ._	._ ._ ._ ._ ._	._ ._ ._ ._ ._
_+_ _	0 36 22 108 144	._ ._ ._ ._ ._	._ ._ ._ ._ ._	._ ._ ._ ._ ._	._ ._ ._ ._ ._
LAYER NUMBER[1]		__	__	__	__

[1] from Construction Data Sheet 4

PREPARER R. SZROT EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [55] 64

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N__.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

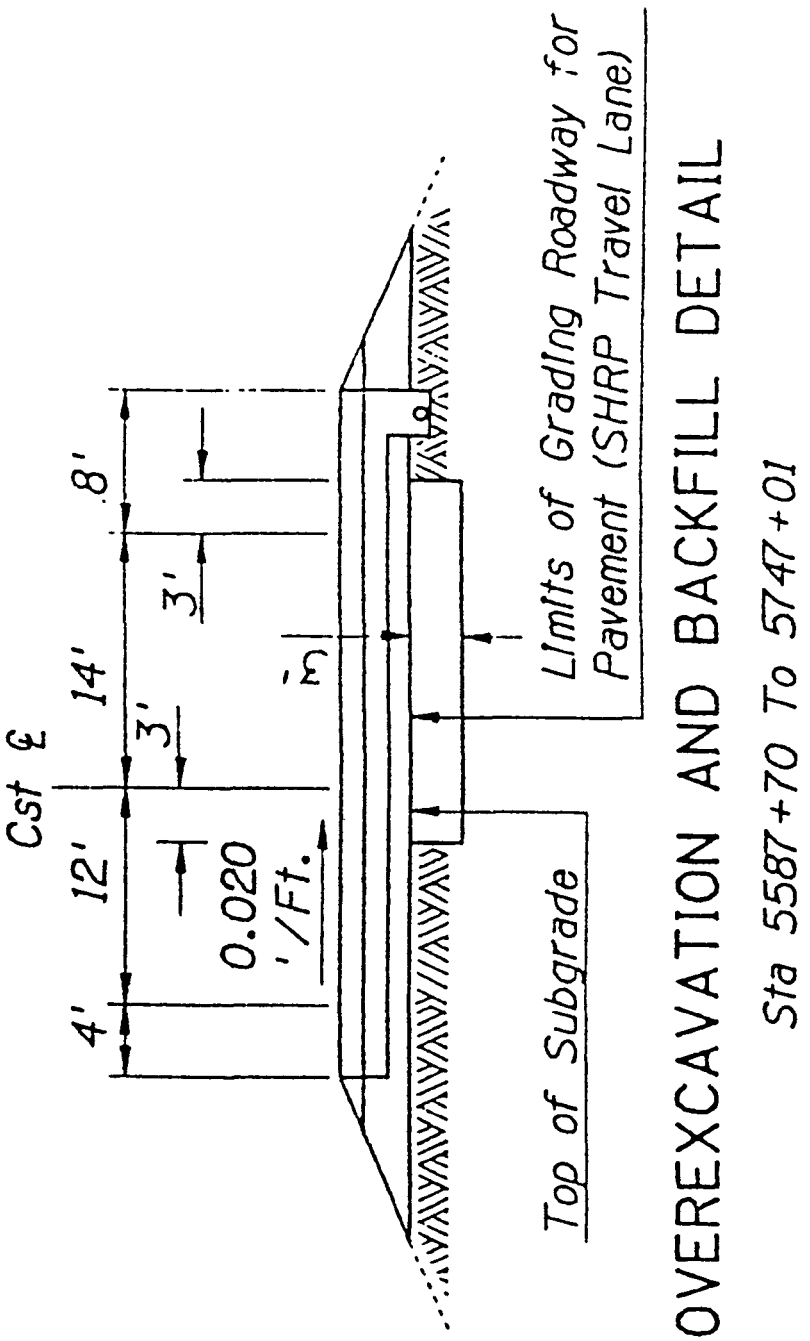
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Scott EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[1 5]~~ 64



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [01-29-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__ 4.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) 8/5 — Sample TESTS OUT ON 3/8" Sieve — SAND WAS Added And Reprocessed

PREPARER R. Szrut EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[15]~~ 64

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[2]	[100.]
* 6.		[__]	[___.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [N]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__N]

*12. AGGREGATE COMBINATION (CALCULATED) [2.662]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [__.__U]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[__N]	[__N.__]
15.	Coarse	[____]	[_____.__]
16.	Coarse	[____]	[_____.__]
17.	Coarse and Fine - Combined	[____]	[_____.__]

18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319) [__U]

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.022]
(AASHTO T228)

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm)
(100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

	TYPE	QUANTITY (%)
8. MODIFIER #1	[_ _]	[_ _.]
9. MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm)
(200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R. Scott EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [55] ~~64~~

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [2]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [__.__N/A__]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [__.__N/A] NUMBER OF TESTS [__ __.]
5. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
6. STD. DEV. [__.__ __ __]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [2.32__] NUMBER OF SAMPLES [__ 1.]
8. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
9. STD. DEV. [__.__ __ __]

PERCENT AIR VOIDS

*10. MEAN [__.__N/A] NUMBER OF SAMPLES [__ __.]
11. MINIMUM [__.__ __ __] MAXIMUM [__.__ __ __]
12. STD. DEV. [__.__ __ __]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [N/A__]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [N/A.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [__N/A.__]

*16. NUMBER OF BLOWS [N/A]

*17. MARSHALL FLOW (Hundredths of an Inch) [__ __N/A.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N/A.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [__ N/A__.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [__N]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [N]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__ __.N]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R Scrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-20-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-20-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[ ]	UNITED METRO #1	[45]	[60]	[ ]
Plant 2	[ ]		[ ]	[ ]	[ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify ____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF 500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.3]

7. PATB PLACEMENT LIFTS: Layer Number [ ]

Nominal First Lift Placement Thickness (Inches) [4.3]

Nominal Second Lift Placement Thickness (Inches) [.]

Nominal Third Lift Placement Thickness (Inches) [.]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) AIR TEMP DURING PLACEMENT ~ 100°F. DRAIN DOWN OCCURING, RESULTING IN CLUMPS WHICH WERE REMOVED BY HAND. NO PROBLEMS.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [0 4]
* SPS PROJECT CODE [0 2]
* TEST SECTION NO. ~~[5 5]~~ 64

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [0 8-2 0-9 3]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [0 8-2 0-9 3]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) ~ [2 8 0.]

5. LAYDOWN TEMPERATURES (°F) ESTIMATED
Mean..... [2 4 0.] Number of Tests ..... [__ __.]
Minimum..... [__ __ __] Maximum .. .. [__ __ __.]
Standard Deviation... [__ __.__]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	1 5.0	[redacted]	[redacted]	[redacted]	[redacted]
7	B	Steel-Whl Tandem	__ __.__				
8	C	Steel-Whl Tandem	__ __.__				
9	D	Steel-Whl Tandem	__ __.__				
10	E	Pneumatic-Tired	__ __.__	__ __ __ __.			
11	F	Pneumatic-Tired	__ __.__	__ __ __ __.			
12	G	Pneumatic-Tired	__ __.__	__ __ __ __.			
13	H	Pneumatic-Tired	__ __.__				
14	I	Single-Drum Vibr.	__ __.__	[redacted]	__ __ __ __.	__ __ __	__ __.__
15	J	Single-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
16	K	Single-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
17	L	Single-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
18	M	Double-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
19	N	Double-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
20	O	Double-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
21	P	Double-Drum Vibr.	__ __.__		__ __ __ __.	__ __ __	__ __.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	NONE	N/A	N/A	N/A
24	Coverages	__ __.	__ __	__ __.	__ __.
	INTERMEDIATE				
25	Roller Code (A-Q)	NONE			
26	Coverages	__ __	__ __	__ __.	__ __.
	FINAL				
27	Roller Code (A-Q)	A			
28	Coverages	__ 3	__ __	__ __.	__ __.
29	Air Temperature (°F)	1 0 0	__ __ __	__ __ __.	__ __ __.
30	Compacted Thickness (In)	3 8	__ __	__ __	__.__
31	Curing Period (Days)	1 7 __	__ __ __	__ __ __	__ __.__

PREPARER R Szrot EMPLOYER NCC DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__13.5]

3. (RANDOM JOINT SPACING, IF ANY: 14-13-15-12)

* 4. SKEWNESS OF JOINTS (ft/lane) 2'/12' lane [2.0]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [2]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [__.__N]

* 7. DOWEL SPACING (Inches) [__ __.] N/

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__ __.N]

9. DOWEL LENGTH (Inches) [__ N.]

10. DOWEL COATING [N]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [N]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [N]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [55] 64

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ 8.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [30.2]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 64

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) STATE 550 MIX

*2. Coarse Aggregate (Pounds)..... [1980.]

*3. Fine Aggregate (Pounds)..... [1311.]

*4. Cement (Pounds)..... [400.]

*5. Water (Pounds)..... [225.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[__ __ __.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[__ __ __.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __.__]
12.	Coarse	[__ __]	[__ __ __.__]
13.	Coarse	[__ __]	[__ __ __.__]
14.	Coarse and Fine	[__ __]	[__ __ __.__]

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

STATE SSO

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer 3/4"	[3]	[60.]
* 3. #4 Pioneer 1½"	[3]	[40.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	100
1".....	73
7/8".....	___
3/4".....	47
5/8".....	___
1/2".....	16
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER D Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-08-93] FM

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-09-93] AW

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 4]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [55] 64

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		

   Other (Specify)_____

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____			7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[55]~~ 64

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[5 6]~~ 65

* 1.	LANE WIDTH (Feet)		[12.]
2.	MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)		[1.]
	SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]	[19.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[4.]	[10.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[23.]	[23.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8.	SHOULDER BASE THICKNESS (Inches)	[6.0]	[6.0]
* 9.	SUBSURFACE DRAINAGE TYPE No Subsurface Drainage... 1 Longitudinal Drains... 2 Transverse Drains... 3 Drainage Blanket... 4 Well System... 5 Drainage Blanket with Longitudinal Drains... 6 Other (Specify)... 7 _____		[1.]
*10.	SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section... 1 Intermittent... 2		[_.]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (Inches)		[__.__]
12.	SPACING OF LATERALS (Feet)		[___.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[5 6]~~ 65

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]	
2	[0 5]	[2 3]	[6.7]	6.2	7.4	.2	DGAB
3	[0 3]	[0 4]	[10.2]	9.5	10.8	.3	PCCP
4	[__ __]	[__ __]	[.]	.	.	.	
5	[__ __]	[__ __]	[.]	.	.	.	
6	[__ __]	[__ __]	[.]	.	.	.	
7	[__ __]	[__ __]	[.]	.	.	.	
8	[__ __]	[__ __]	[.]	.	.	.	
9	[__ __]	[__ __]	[.]	.	.	.	
10	[__ __]	[__ __]	[.]	.	.	.	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[5 6]~~ 65

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	PERMEABLE ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
5713+0	0	6.6			10.8
	36	6.7			10.3
	72	7.0			10.3
	108	6.6			10.2
	144	6.5			10.3
5714+0	0	6.6			10.8
	36	6.5			10.6
	72	6.6			10.6
	108	6.6			10.2
	144	6.7			10.6
5715+0	0	7.0			10.2
	36	6.7			10.2
	72	6.6			10.3
	108	7.4			9.5
	144	7.1			10.3
5716+0	0	7.1			10.1
	36	6.7			10.2
	72	7.0			10.2
	108	6.8			10.0
	144	6.8			10.1
5718+0	0	7.1			9.8
	36	6.7			10.3
	72	6.8			10.1
	108	7.0			10.0
	144	6.8			10.2
LAYER NUMBER[1]					

[1] from Construction Data Sheet 4

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[__]~~ 65

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[__ __.__]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

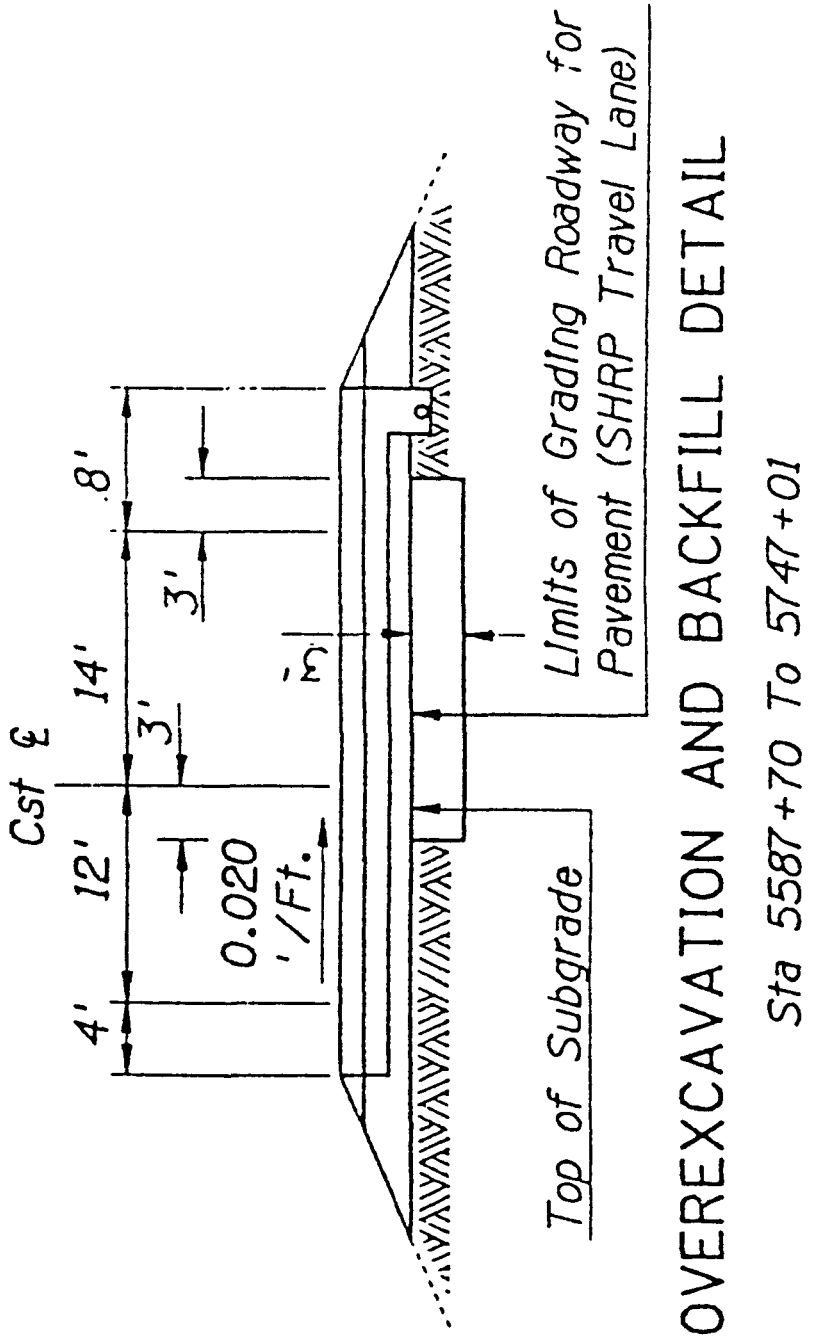
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R SZROT EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[56]~~ 65



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Scott EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 9 UNBOUND AGGREGATE BASE MATERIAL PLACEMENT	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[50]~~ 65

*1. UNBOUND BASE MATERIAL PLACEMENT BEGAN (Month-Day-Year) [02-25-93]

*2. UNBOUND BASE MATERIAL PLACEMENT COMPLETED (Month-Day-Year) [08-13-93]

*3. LAYER NUMBER (From Sheet 4) [__]

PRIMARY COMPACTION EQUIPMENT

*4. CODE TYPE [1]

COMPACTION TYPE CODES
Pneumatic - Tired... 1 Steel Wheel Tandem... 2 Single Drum Vibr.... 3
Double Drum Vibr.... 4
Other (Specify)... 5 _____

*5. GROSS WEIGHT (Tons) [__ __.__]

*6. LIFT THICKNESSES

Nominal First Lift Placement Thickness (Inches) [__6.0]

Nominal Second Lift Placement Thickness (Inches) [__ __.__]

Nominal Third Lift Placement Thickness (Inches) [__ __.__]

Nominal Fourth Lift Placement Thickness (Inches) [__ __.__]

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

7. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) 8/5 - Sample tests out on 3/8" sieve — sand was added and reprocessed.

PREPARER R. Scott EMPLOYER NCK DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [56] 65

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__13.5]

3. (RANDOM JOINT SPACING, IF ANY: 14-13-15-12)

* 4. SKEWNESS OF JOINTS (ft/lane) 2'/12' lane [2.0]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [2]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [N.__ __]

* 7. DOWEL SPACING (Inches) [__ N.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [__ __.N]

9. DOWEL LENGTH (Inches) [N __.]

10. DOWEL COATING [N]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [N]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [N]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[56]~~ 65

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __8.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [0.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [31.5]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER Bruce Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [~~56~~ 65]

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) State 550 mix

*2. Coarse Aggregate (Pounds)..... [1980.]

*3. Fine Aggregate (Pounds)..... [1311.]

*4. Cement (Pounds)..... [_400.]

*5. Water (Pounds)..... [_225.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

PREPARER R. Szot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[56]~~ 65

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

STATE 550

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer 3/4"	[3]	[60.]
* 3. #4 Pioneer 1½"	[3]	[40.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. ASTM Hassayampa / Palmer	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	100
1".....	73
7/8".....	___
3/4".....	47
5/8".....	___
1/2".....	16
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	99
No. 10....	87
No. 16....	72
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R Szrot EMPLOYER NCE DATE 2/23/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[56]~~ 65

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-08-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-08-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	Tanner Concrete	[__ __ 1]	[__ __ 4]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER Gomaco GP 3000

7. SPREADER TYPE (if applicable) Belt driven, side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER Gomaco 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[56]~~ 65

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]
   Membrane Curing Compound..... 1 Burlap-Polyethylene Blanket... 5
   Burlap Curing Blankets..... 2 Cotton Mat Curing..... 6
   Waterproof Paper Blankets..... 3 Hay..... 7
   White Polyethylene Sheeting... 4
   Other (Specify)_____ 8

4. TEXTURING [1]
   Tine..... 1 Grooved Float..... 4
   Broom..... 2 Astro Turf..... 5
   Burlap Drag..... 3 None..... 6
   Other (Specify)_____ 7

PREPARER Brian Barnett EMPLOYER NCE DATE 10/8/93

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[56]~~ 65

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[57]~~ 66

* 1. LANE WIDTH (Feet) [14.]

2. MONITORING SITE LANE NUMBER [1.]
(LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER
LANE 2 IS NEXT TO LANE 1, ETC.)

SHOULDER DATA	INSIDE SHOULDER	OUTSIDE SHOULDER
* 3. SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4. TOTAL SHOULDER WIDTH (Feet)	[13.]	[12.]
* 5. PAVED SHOULDER WIDTH (Feet)	[4.]	[10.]
6. SHOULDER BASE TYPE (CODES-TABLE A.6)	[28.]	[28.]
7. SHOULDER SURFACE THICKNESS (Inches)	[12.5]	[12.5]
8. SHOULDER BASE THICKNESS (Inches)	[4.0]	[4.0]

* 9. SUBSURFACE DRAINAGE TYPE [1.]
No Subsurface Drainage... 1 Longitudinal Drains... 2
Transverse Drains... 3 Drainage Blanket... 4 Well System... 5
Drainage Blanket with Longitudinal Drains... 6
Other (Specify)... 7 _____

*10. SUBSURFACE DRAINAGE LOCATION [__.]
Continuous Along Test Section... 1 Intermittent... 2

11. DIAMETER OF LONGITUDINAL DRAINPIPES (Inches) [__ __.__]

12. SPACING OF LATERALS (Feet) [__ __ __.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[57]~~ 66

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]				
2	[05]	[28]	[_4.0]	_3.6	_5.0	_.3
3	[03]	[04]	[12.5]	11.5	13.1	_.3
4	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._
5	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._
6	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._
7	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._
8	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._
9	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._
10	[__ __]	[__ __]	[_ _._]	_ _._	_ _._	_ _._

BTB
PCCP

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~52~~ 66

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES) DENSE GRADED AGGREGATE BASE	~~PERMEABLE~~ ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— — . —	— 4 . 3	— — . —	1 2 . 5
	— 3 6	— — . —	— 4 . 2	— — . —	1 2 . 4
	— 2 2	— — . —	— 4 . 1	— — . —	1 2 . 1
5720+0	1 0 8	— — . —	— 4 . 8	— — . —	1 1 . 8
	1 4 4	— — . —	— 5 . 0	— — . —	1 1 . 5
—+— —	— — 0	— — . —	— 4 . 3	— — . —	1 2 . 2
	— 3 6	— — . —	— 4 . 1	— — . —	1 2 . 5
	— 2 2	— — . —	— 4 . 1	— — . —	1 2 . 2
5721+0	1 0 8	— — . —	— 4 . 1	— — . —	1 2 . 5
	1 4 4	— — . —	— 4 . 1	— — . —	1 2 . 4
—+— —	— — 0	— — . —	— 4 . 2	— — . —	1 2 . 5
	— 3 6	— — . —	— 3 . 8	— — . —	1 2 . 5
	— 2 2	— — . —	— 4 . 1	— — . —	1 2 . 4
5722+0	1 0 8	— — . —	— 4 . 0	— — . —	1 2 . 5
	1 4 4	— — . —	— 4 . 6	— — . —	1 2 . 2
—+— —	— — 0	— — . —	— 4 . 2	— — . —	1 2 . 7
	— 3 6	— — . —	— 3 . 2	— — . —	1 2 . 7
	— 2 2	— — . —	— 4 . 0	— — . —	1 2 . 8
5723+0	1 0 8	— — . —	— 3 . 8	— — . —	1 2 . 2
	1 4 4	— — . —	— 4 . 0	— — . —	1 2 . 2
—+— —	— — 0	— — . —	— 4 . 3	— — . —	1 1 . 6
	— 3 6	— — . —	— 3 . 8	— — . —	1 2 . 0
	— 2 2	— — . —	— 4 . 0	— — . —	1 2 . 1
5724+0	1 0 8	— — . —	— 4 . 1	— — . —	1 2 . 1
	1 4 4	— — . —	— 4 . 3	— — . —	1 2 . 1
—+— —	— — 0	— — . —	— 4 . 2	— — . —	1 2 . 5
	— 3 6	— — . —	— 4 . 0	— — . —	1 3 . 1
	— 2 2	— — . —	— 4 . 1	— — . —	1 2 . 5
5725+0	1 0 8	— — . —	— 4 . 0	— — . —	1 2 . 4
	1 4 4	— — . —	— 4 . 1	— — . —	1 2 . 5
—+— —	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[57]~~ 66

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N/A]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

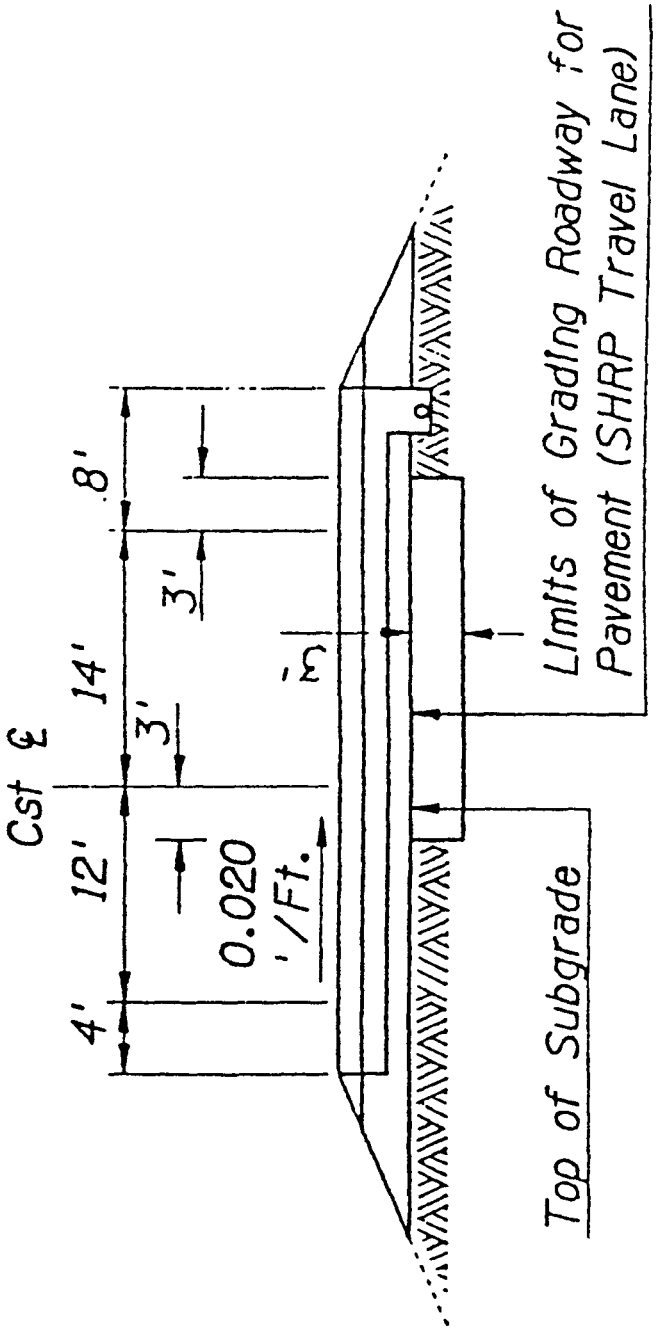
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R. Szaro EMPLOYER NCE DATE 05/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[0 1]~~ 66



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Sero1 EMPLOYER NCE DATE 2/23/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 66

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[1]	[81.]
* 6.		[2]	[19.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [3]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__]

*12. AGGREGATE COMBINATION (CALCULATED) [2.647]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [2.663]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[01]	[__20.__]
15.	Coarse	[__ __]	[__ __ __.__]
16.	Coarse	[__ __]	[__ __ __.__]
17.	Coarse and Fine - Combined	[__ __]	[__ __ __.__]

18. POLISH VALUE OF COARSE AGGREGATES [__4]
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 66

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.0274]
(AASHTO T228)

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm)
(100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm)
(200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[57]~~ 66

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [2.429]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.367] NUMBER OF TESTS [__1.]
5. MINIMUM [__.___] MAXIMUM [__.___]
6. STD. DEV. [__.___]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [5.13_] NUMBER OF SAMPLES [__1.]
8. MINIMUM [__.___] MAXIMUM [__.___]
9. STD. DEV. [__.___]

PERCENT AIR VOIDS

*10. MEAN [3.8__] NUMBER OF SAMPLES [__1.]
11. MINIMUM [__.___] MAXIMUM [__.___]
12. STD. DEV. [__.___]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [14.7]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [__.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [3564._]

*16. NUMBER OF BLOWS [75]

*17. MARSHALL FLOW (Hundredths of an Inch) [___8.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [___N.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [__N]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [N]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__N]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R. Scott EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[57]~~ 66

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-23-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[__]	UNITED METRO #1	[45]	[60]	[__]
Plant 2	[__]	_____	[___]	[__]	[__]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify ____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF 500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.5]

7. PATB PLACEMENT LIFTS: Layer Number [__]

Nominal First Lift Placement Thickness (Inches) [4.0]

Nominal Second Lift Placement Thickness (Inches) [__.__]

Nominal Third Lift Placement Thickness (Inches) [__.__]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) NCE NOT PRESENT FOR CONSTRUCTION. NO PROBLEMS NOTED.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

▾ STATE CODE [0 4]
* SPS PROJECT CODE [0 2]
▾ TEST SECTION NO. ~~[5 7]~~ 66

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-23-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) [___.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... [225.]
Minimum..... [___.]
Standard Deviation... [__.__]
Number of Tests ..... [__.]
Maximum. . . . . [___.]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	__.__	[redacted]	[redacted]	[redacted]	[redacted]
7	B	Steel-Whl Tandem	__.__				
8	C	Steel-Whl Tandem	__.__				
9	D	Steel-Whl Tandem	__.__				
10	E	Pneumatic-Tired	__.__	____.			
11	F	Pneumatic-Tired	__.__	____.			
12	G	Pneumatic-Tired	__.__	____.			
13	H	Pneumatic-Tired	__.__	.			
14	I	Single-Drum Vibr.	__.__	[redacted]	____.	___.	__.__
15	J	Single-Drum Vibr.	__.__		____.	___.	__.__
16	K	Single-Drum Vibr.	__.__		____.	___.	__.__
17	L	Single-Drum Vibr.	__.__		____.	___.	__.__
18	M	Double-Drum Vibr.	15.0		____.	___.	__.__
19	N	Double-Drum Vibr.	15.0		____.	___.	__.__
20	O	Double-Drum Vibr.	__.__		____.	___.	__.__
21	P	Double-Drum Vibr.	__.__		____.	___.	__.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	_	_	_	_
24	Coverages	__.	__.	__.	__.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	__.	__.	__.	__.
	FINAL				
27	Roller Code (A-Q)	_	_	_	_
28	Coverages	__.	__.	__.	__.
29	Air Temperature (°F)	70	___	___.	___.
30	Compacted Thickness (In)	4.0	__.__	__.__	__.__
31	Curing Period (Days)	16	___	___	__.__

PREPARER R. SZAST EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 66

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 66

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __8.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [__.__]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [__ __.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [__ __.__]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER R. Scott EMPLOYER NCE DATE 3/2/94

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 66

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [_]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1939.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [_400.]

*5. Water (Pounds)..... [_232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100._]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___._]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___._]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__]	[___._]
12.	Coarse	[__]	[___._]
13.	Coarse	[__]	[___._]
14.	Coarse and Fine	[__]	[___._]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[59]~~ 66

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 66

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-08-93] AM

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-08-93] AM

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	TANNER CONCRETE	[__ __ 1]	[__ __ 4]
Plant 2	_____	[__ __ __]	[__ __ __]
Plant 3	_____	[__ __ __]	[__ __ __]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER GOMACO GP 3000

7. SPREADER TYPE (if applicable) BELT DRIVEN - SIDE FEED

8. SPREADER MANUFACTURER AND MODEL NUMBER GOMACO 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [0 7] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[5 9]~~ 66

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]
   Membrane Curing Compound..... 1 Burlap-Polyethylene Blanket... 5
   Burlap Curing Blankets..... 2 Cotton Mat Curing..... 6
   Waterproof Paper Blankets..... 3 Hay..... 7
   White Polyethylene Sheeting... 4
   Other (Specify)_____ 8

4. TEXTURING [1]
   Tine..... 1 Grooved Float..... 4
   Broom..... 2 Astro Turf..... 5
   Burlap Drag..... 3 None..... 6
   Other (Specify)_____ 7

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[ ]~~ 66

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]
2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]
3. PROFILE INDEX (Inches/Mile) [__ __]
4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]
5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]
6. CUTOFF HEIGHT (Inches) [__.__ __]
7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]
8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]
10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]
*11. REASON FOR GRINDING [__]
    Elimination of Faulting... 1 Elimination of Slab Warping... 2
    Improve Skid Resistance... 3
    Restoration of Transverse Drainage Slope... 4
    Correction of Construction Deficiencies...5
    Other (Specify)... 6 _____
12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]
13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]
14. AVERAGE GROOVE WIDTH (Inches) [__ .__]
15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [58] 67

		INSIDE SHOULDER	OUTSIDE SHOULDER
* 1.	LANE WIDTH (Feet)		[14.]
2.	MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)		[1.]
	SHOULDER DATA		
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]	[12.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[4.]	[10.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[28.]	[28.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[11.0]	[11.0]
8.	SHOULDER BASE THICKNESS (Inches)	[4.0]	[4.0]
* 9.	SUBSURFACE DRAINAGE TYPE No Subsurface Drainage... 1 Longitudinal Drains... 2 Transverse Drains... 3 Drainage Blanket... 4 Well System... 5 Drainage Blanket with Longitudinal Drains... 6 Other (Specify)... 7 _____		[1.]
*10.	SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section... 1 Intermittent... 2		[__.]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (Inches)		[__ __.__]
12.	SPACING OF LATERALS (Feet)		[__ __ __.]

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)			
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.
1	SUBGRADE(7)	[__ __]	[redacted]	[redacted]	[redacted]	[redacted]
2	[05]	[28]	[__4.0]	__3.5	__4.6	___.2
3	[03]	[07]	[_11.3]	_10.6	_11.9	___.2
4	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
5	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
6	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
7	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
8	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
9	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__
10	[__ __]	[__ __]	[___.__]	___.__	___.__	___.__

BTB
PCCP

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER R. Szrot EMPLOYER NCE DATE 2/12/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	FROM ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	~~PERMEABLE~~ ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— — . —	— 4 . 3	— — . —	1 1 . 2
	— 3 6	— — . —	— 3 . 8	— — . —	1 1 . 4
	— 7 2	— — . —	— 4 . 3	— — . —	1 1 . 0
5727+0	1 0 8	— — . —	— 4 . 4	— — . —	1 0 . 9
	1 4 4	— — . —	— 4 . 6	— — . —	1 0 . 6
—+— —	— — 0	— — . —	— 4 . 4	— — . —	1 0 . 8
	— 3 6	— — . —	— 4 . 2	— — . —	1 1 . 0
	— 7 2	— — . —	— 4 . 1	— — . —	1 1 . 0
5728+0	1 0 8	— — . —	— 4 . 6	— — . —	1 1 . 3
	1 4 4	— — . —	— 3 . 7	— — . —	1 1 . 3
—+— —	— — 0	— — . —	— 4 . 2	— — . —	1 1 . 2
	— 3 6	— — . —	— 3 . 7	— — . —	1 1 . 5
	— 7 2	— — . —	— 3 . 8	— — . —	1 1 . 5
5729+0	1 0 8	— — . —	— 4 . 0	— — . —	1 1 . 4
	1 4 4	— — . —	— 3 . 5	— — . —	1 1 . 5
—+— —	— — 0	— — . —	— 4 . 6	— — . —	1 0 . 8
	— 3 6	— — . —	— 4 . 0	— — . —	1 1 . 0
	— 7 2	— — . —	— 4 . 0	— — . —	1 1 . 0
5730+0	1 0 8	— — . —	— 4 . 1	— — . —	1 1 . 0
	1 4 4	— — . —	— 4 . 0	— — . —	1 1 . 0
—+— —	— — 0	— — . —	— 4 . 1	— — . —	1 1 . 3
	— 3 6	— — . —	— 4 . 0	— — . —	1 1 . 5
	— 7 2	— — . —	— 4 . 1	— — . —	1 1 . 5
5731+0	1 0 8	— — . —	— 3 . 8	— — . —	1 1 . 6
	1 4 4	— — . —	— 3 . 6	— — . —	1 1 . 9
—+— —	— — 0	— — . —	— 4 . 1	— — . —	1 1 . 3
	— 3 6	— — . —	— 3 . 8	— — . —	1 1 . 4
	— 7 2	— — . —	— 4 . 1	— — . —	1 1 . 3
5732+0	1 0 8	— — . —	— 4 . 1	— — . —	1 1 . 3
	1 4 4	— — . —	— 3 . 8	— — . —	1 1 . 5
—+— —	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R. SCOTT EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[08]~~ 67

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

	TYPE	PERCENT
*5. STABILIZING AGENT 1	[__]	[N/A]
*6. STABILIZING AGENT 2	[__]	[__ __.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

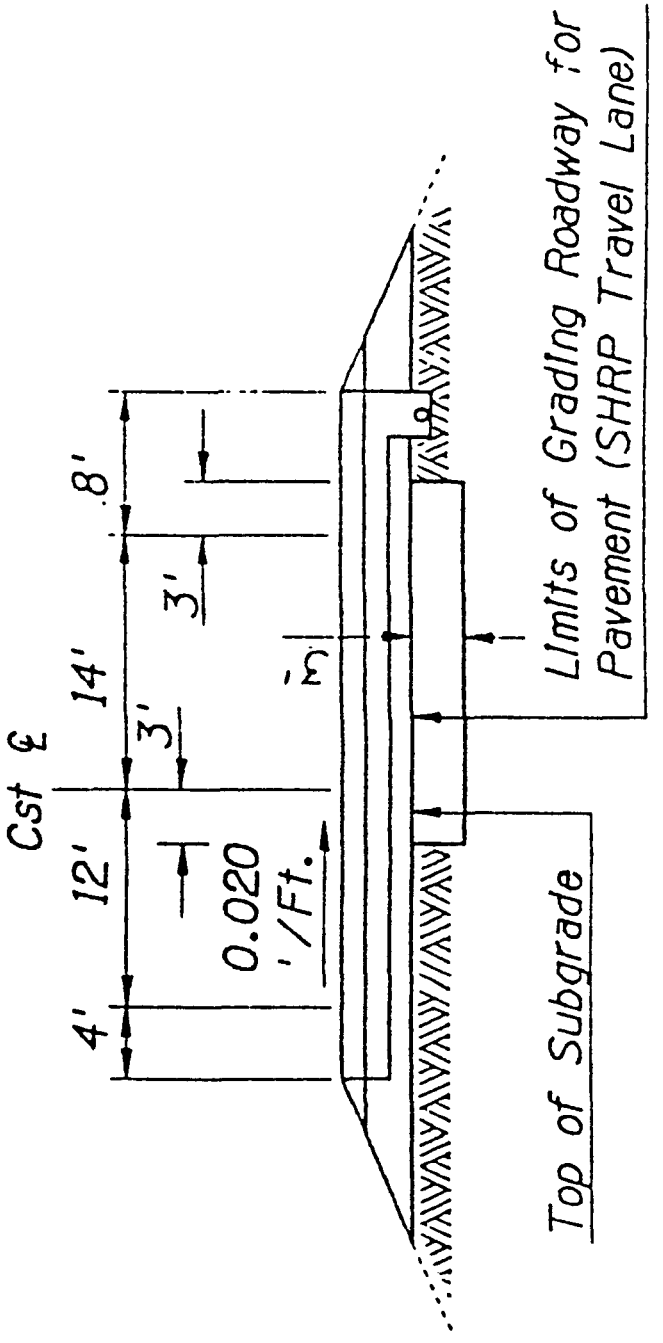
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67



OVEREXCAVATION AND BACKFILL DETAIL

Sta 5587+70 To 5747+01

PREPARER R. Sarot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

	COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.		[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

	COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.		[1]	[81.]
* 6.		[2]	[19.]
* 7.		[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [3]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__ __4]

*12. AGGREGATE COMBINATION (CALCULATED) [2.647]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [2.663]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14.	Coarse	[01]	[__20.__]
15.	Coarse	[__ __]	[__ __ __.__]
16.	Coarse	[__ __]	[__ __ __.__]
17.	Coarse and Fine - Combined	[__ __]	[__ __ __.__]

18. POLISH VALUE OF COARSE AGGREGATES [__ 44]
SURFACE LAYER ONLY (AASHTO T279, ASTM D3319)

PREPARER D. FRITH EMPLOYER NCE DATE 2/14/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT [1.023]
(AASHTO T228)

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises)
(AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes)
(AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm)
(100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm)
(AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm)
(AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT
AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm)
(200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R Scott EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [2.429]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.367] NUMBER OF TESTS [__1.]
5. MINIMUM [__.____] MAXIMUM [__.____]
6. STD. DEV. [__.____]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [5.13__] NUMBER OF SAMPLES [__1.]
8. MINIMUM [__.____] MAXIMUM [__.____]
9. STD. DEV. [__.____]

PERCENT AIR VOIDS

*10. MEAN [3.8____] NUMBER OF SAMPLES [__1.]
11. MINIMUM [__.____] MAXIMUM [__.____]
12. STD. DEV. [__.____]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [14.2]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [__ __.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [3564.__]

*16. NUMBER OF BLOWS [75]

*17. MARSHALL FLOW (Hundredths of an Inch) [___8.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [___N.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [_N]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [N]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__.N]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R. SZAOT EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-25-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[__]	UNITED METRO #1	[45]	[60]	[__]
Plant 2	[—]	—	[—]	[—]	[—]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify —

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW-KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF-500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.0]

7. PATB PLACEMENT LIFTS: Layer Number [__]

Nominal First Lift Placement Thickness (Inches) [4.0]

Nominal Second Lift Placement Thickness (Inches) [—.—]

Nominal Third Lift Placement Thickness (Inches) [—.—]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) NCE NOT PRESENT DURING CONSTRUCTION. NO PROBLEMS NOTED.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO. ~~[58]~~ 67

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-23-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) [___.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... [225]
Minimum..... [___]
Standard Deviation... [__.__]
Number of Tests ..... [__.]
Maximum ..... [___.]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr./Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	__.__				
7	B	Steel-Whl Tandem	__.__				
8	C	Steel-Whl Tandem	__.__				
9	D	Steel-Whl Tandem	__.__				
10	E	Pneumatic-Tired	__.__	___.			
11	F	Pneumatic-Tired	__.__	___.			
12	G	Pneumatic-Tired	__.__	___.			
13	H	Pneumatic-Tired	__.__	___.			
14	I	Single-Drum Vibr.	__.__		___.	___.	__.__
15	J	Single-Drum Vibr.	__.__		___.	___.	__.__
16	K	Single-Drum Vibr.	__.__		___.	___.	__.__
17	L	Single-Drum Vibr.	__.__		___.	___.	__.__
18	M	Double-Drum Vibr.	15.0		___.	___.	__.__
19	N	Double-Drum Vibr.	15.0		___.	___.	__.__
20	O	Double-Drum Vibr.	__.__		___.	___.	__.__
21	P	Double-Drum Vibr.	__.__		___.	___.	__.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	_	_	_	_
24	Coverages	__.	__.	__.	__.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	__	__.	__.	__.
	FINAL				
27	Roller Code (A-Q)	_	_	_	_
28	Coverages	__	__	__.	__.
29	Air Temperature (°F)	74	___	___.	___.
30	Compacted Thickness (In)	4.0	__	__	__.__
31	Curing Period (Days)	16	___	___	__.__

PREPARER R. Szrot EMPLOYER NCE DATE 2/13/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 67

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [__15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.50]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER R. Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __ 8.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [__.__ __]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [__ __.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [__ __.__]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER R. Senot EMPLOYER NCE DATE 3/2/94

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1932.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [400.]

*5. Water (Pounds)..... [232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[___.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[___.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[___.__]
12.	Coarse	[__ __]	[___.__]
13.	Coarse	[__ __]	[___.__]
14.	Coarse and Fine	[__ __]	[___.__]

PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. [58] 67

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

COMPOSITION OF COARSE AGGREGATE		TYPE	PERCENT
* 2.	#57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.		[__]	[___.]
* 4.		[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__ __.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE		TYPE	PERCENT
* 6.	ASTM - Hassayampa / Palmer	[1]	[100.]
* 7.		[__]	[___.]
* 8.		[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67 __]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65 __]

PREPARER R. Scrot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-07-93] PM

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-08-93] AM

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [_]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	TANNER CONCRETE	[__1]	[__4]
Plant 2	_____	[___]	[___]
Plant 3	_____	[___]	[___]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER GOMACO GP 3000

7. SPREADER TYPE (if applicable) BELT DRIVEN - side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER GOMACO 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_5.5]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER R SEAT EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[58]~~ 67

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____	8		

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____	7		

PREPARER R Scrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [0221] * TEST SECTION NO. ~~[58]~~ 67

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [__]

3. PROFILE INDEX (Inches/Mile) [___ ___]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [___.___ ___]

6. CUTOFF HEIGHT (Inches) [___.___ ___]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____

SPS-2 CONSTRUCTION DATA SHEET 2 GEOMETRIC, SHOULDER AND DRAINAGE INFORMATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[01]~~ 68

		INSIDE SHOULDER	OUTSIDE SHOULDER
* 1.	LANE WIDTH (Feet)		[14.]
2.	MONITORING SITE LANE NUMBER (LANE 1 IS OUTSIDE LANE, NEXT TO SHOULDER LANE 2 IS NEXT TO LANE 1, ETC.)		[1.]
	SHOULDER DATA		
* 3.	SHOULDER SURFACE TYPE Turf... 1 Granular.... 2 Asphalt Concrete... 3 Concrete... 4 Surface Treatment... 5 Other (Specify)... 6 _____	[4.]	[4.]
* 4.	TOTAL SHOULDER WIDTH (Feet)	[13.]	[12.]
* 5.	PAVED SHOULDER WIDTH (Feet)	[4.]	[10.]
6.	SHOULDER BASE TYPE (CODES-TABLE A.6)	[28.]	[28.]
7.	SHOULDER SURFACE THICKNESS (Inches)	[8.0]	[8.0]
8.	SHOULDER BASE THICKNESS (Inches)	[4.0]	[4.0]
* 9.	SUBSURFACE DRAINAGE TYPE No Subsurface Drainage... 1 Longitudinal Drains... 2 Transverse Drains... 3 Drainage Blanket... 4 Well System... 5 Drainage Blanket with Longitudinal Drains... 6 Other (Specify)... 7 _____		[1.]
*10.	SUBSURFACE DRAINAGE LOCATION Continuous Along Test Section... 1 Intermittent... 2		[_.]
11.	DIAMETER OF LONGITUDINAL DRAINPIPES (Inches)		[__.__]
12.	SPACING OF LATERALS (Feet)		[___.]

PREPARER R. Sebot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 4 LAYER DESCRIPTIONS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 68

*1 LAYER NUMBER	*2 LAYER DESCRIPTION	*3 MATERIAL TYPE CLASS	*4 LAYER THICKNESSES (Inches)				
			AVERAGE	MINIMUM	MAXIMUM	STD. DEV.	
1	SUBGRADE(7)	[__ __]					
2	[05]	[28]	[__4.0]	__3.4	__5.3	___.3	BTB
3	[03]	[04]	[__8.5]	__7.3	__9.0	___.3	PCCP
4	[__ __]	[__ __]	[___._]	___._	___._	___._	
5	[__ __]	[__ __]	[___._]	___._	___._	___._	
6	[__ __]	[__ __]	[___._]	___._	___._	___._	
7	[__ __]	[__ __]	[___._]	___._	___._	___._	
8	[__ __]	[__ __]	[___._]	___._	___._	___._	
9	[__ __]	[__ __]	[___._]	___._	___._	___._	
10	[__ __]	[__ __]	[___._]	___._	___._	___._	

*5 DEPTH BELOW SURFACE TO "RIGID" LAYER (Feet) [__ __ . __]
(Rock, Stone, Dense Shale)

NOTES:

1. Layer 1 is the subgrade soil, the highest numbered layer is the pavement surface.

2. Layer description codes:

Overlay.....01	Base Layer.....05	Porous Friction Course..09
Seal/Tack Coat.....02	Subbase Layer.....06	Surface Treatment.....10
Original Surface.....03	Subgrade.....07	Embankment (Fill).....11
HMAC Layer (Subsurface).04	Interlayer.....08	

3. The material type classification codes are presented in Tables A.5, A.6, A.7 and A.8 of the Data Collection Guide for Long Term Pavement Performance Studies, dated January 17, 1990 (Appendix B of SPS-2 Data Collection Guide).

4. Enter the average thickness of each layer and the minimum, maximum and standard deviation of the thickness measurements, if known.

PREPARER B Szrot EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 5 LAYER THICKNESS MEASUREMENTS	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 68

LAYER THICKNESS MEASUREMENTS (Inches) SHEET 1 OF 1

STATION NUMBER	From ℄ OFFSET (Inches)	LAYER THICKNESS (INCHES)			
		DENSE GRADED AGGREGATE BASE	~~PERMEABLE~~ ASPHALT TREATED BASE	LEAN CONCRETE BASE	PCC SURFACE
—+— —	— — 0	— — . —	— 4 . 3	— — . —	— 8 . 4
	— 3 6	— — . —	— 3 . 5	— — . —	— 8 . 8
	— 7 2	— — . —	— 4 . 1	— — . —	— 8 . 5
5734+50	1 0 8	— — . —	— 4 . 1	— — . —	— 8 . 5
	1 4 4	— — . —	— 4 . 1	— — . —	— 8 . 6
—+— —	— — 0	— — . —	— 4 . 6	— — . —	— 8 . 4
	— 3 6	— — . —	— 4 . 1	— — . —	— 8 . 5
	— 7 2	— — . —	— 4 . 1	— — . —	— 8 . 5
5735+50	1 0 8	— — . —	— 4 . 2	— — . —	— 8 . 3
	1 4 4	— — . —	— 4 . 1	— — . —	— 8 . 4
—+— —	— — 0	— — . —	— 4 . 7	— — . —	— 8 . 3
	— 3 6	— — . —	— 4 . 2	— — . —	— 8 . 5
	— 7 2	— — . —	— 4 . 0	— — . —	— 8 . 5
5736+50	1 0 8	— — . —	— 4 . 2	— — . —	— 8 . 5
	1 4 4	— — . —	— 4 . 2	— — . —	— 8 . 6
—+— —	— — 0	— — . —	— 4 . 4	— — . —	— 8 . 3
	— 3 6	— — . —	— 3 . 7	— — . —	— 8 . 6
	— 7 2	— — . —	— 3 . 8	— — . —	— 8 . 8
5737+50	1 0 8	— — . —	— 3 . 8	— — . —	— 8 . 6
	1 4 4	— — . —	— 4 . 0	— — . —	— 8 . 6
—+— —	— — 0	— — . —	— 4 . 3	— — . —	— 8 . 3
	— 3 6	— — . —	— 5 . 3	— — . —	— 8 . 3
	— 7 2	— — . —	— 3 . 2	— — . —	— 8 . 6
5738+50	1 0 8	— — . —	— 4 . 1	— — . —	— 8 . 4
	1 4 4	— — . —	— 3 . 8	— — . —	— 8 . 6
—+— —	— — 0	— — . —	— 4 . 2	— — . —	— 8 . 4
	— 3 6	— — . —	— 3 . 5	— — . —	— 8 . 8
	— 7 2	— — . —	— 3 . 6	— — . —	— 8 . 6
5739+50	1 0 8	— — . —	— 3 . 6	— — . —	— 8 . 8
	1 4 4	— — . —	— 3 . 6	— — . —	— 8 . 9
—+— —	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
	— — —	— — . —	— — . —	— — . —	— — . —
LAYER NUMBER[1]		— —	— —	— —	— —

[1] from Construction Data Sheet 4

PREPARER R Scott EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 6 SUBGRADE PREPARATION	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[ ]~~ 68

*1. SUBGRADE PREPARATION BEGAN (Month-Day-Year) [07-01-93]

*2. SUBGRADE PREPARATION COMPLETED (Month-Day-Year) [07-30-93]

PRIMARY COMPACTION EQUIPMENT

*3. CODE TYPE [1]

COMPACTION EQUIPMENT TYPE CODES
Sheepsfoot... 1 Pneumatic Tired... 2 Steel Wheel Tandem... 3
Single Drum Vibr.... 4 Double Drum Vibr.... 5
Other (Specify)... 6 _____

*4. GROSS WEIGHT (Tons) [__ __.__]

		TYPE	PERCENT
*5.	STABILIZING AGENT 1	[__]	[N__.__]
*6.	STABILIZING AGENT 2	[__]	[__.__]

STABILIZING AGENT TYPE CODES
Portland Cement... 1 Lime... 2 Fly Ash, Class C... 3
Fly Ash, Class N... 4
Other (Specify)... 5 _____

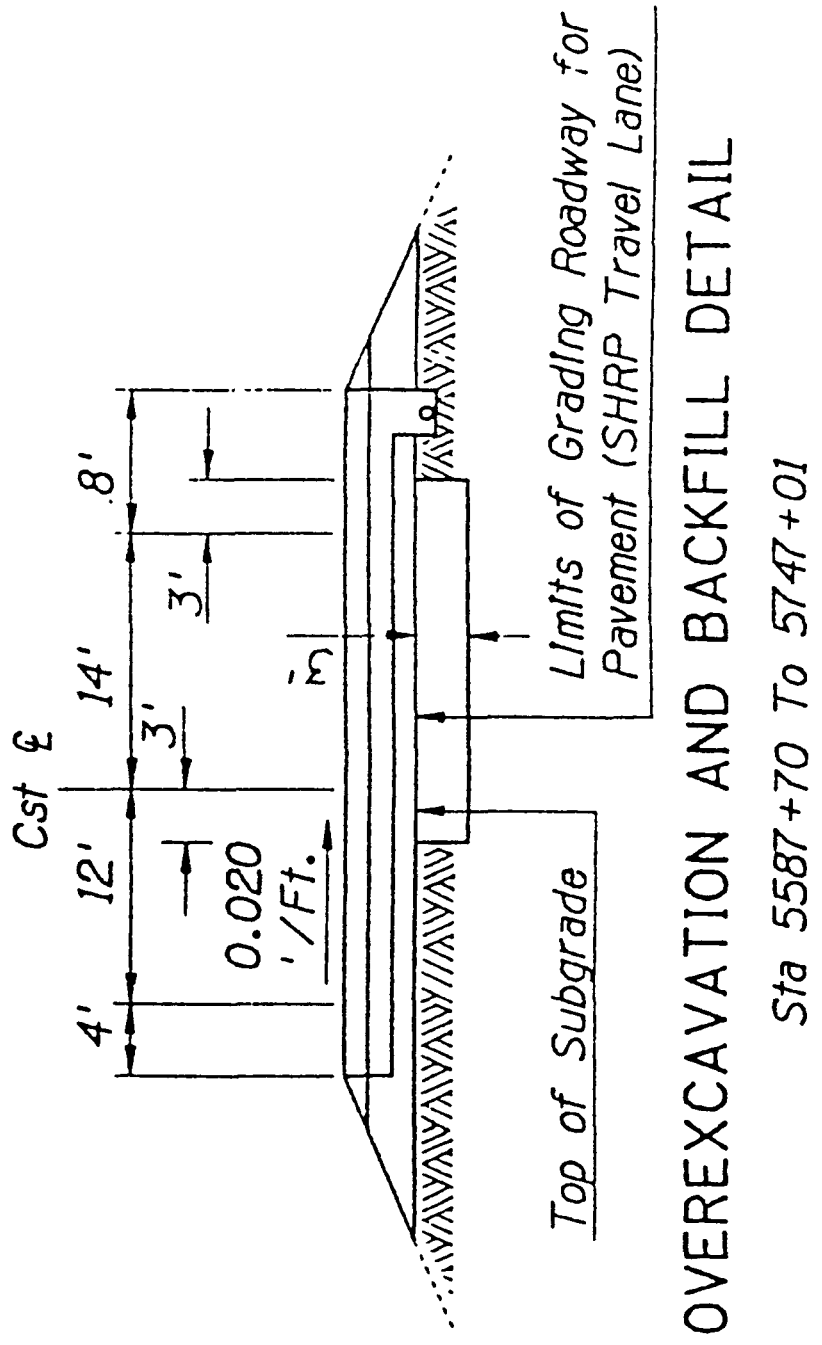
*7. TYPICAL LIFT THICKNESS (Inches) [__ __.__]
(For Fill Sections Only)

NOTE: Density Data is recorded on Sampling Data Sheet 8-1

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (DISRUPTIONS, RAIN, EQUIPMENT PROBLEMS, ETC.) _____

PREPARER R Szrot EMPLOYER NCE DATE 5/6/94

SPS-2 CONSTRUCTION DATA SHEET 8 SUBGRADE EXCAVATION AND BACKFILLING SKETCH	* STATE CODE [0 4] * SPS PROJECT CODE [0 2] * TEST SECTION NO. ~~[5 7]~~ 68



PREPARER R. Szrot EMPLOYER NCE DATE 2/23/94

February 1992

SPS-2 CONSTRUCTION DATA SHEET 10 PLANT-MIXED ASPHALT BOUND LAYERS AGGREGATE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 68

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2.	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone... 1 Manufactured gravel... 2 Crushed Gravel... 3
Crushed Slag..... 4 Manufactured Lightweight..... 5
Other (Specify)_____ 6

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 5.	[1]	[81.]
* 6.	[2]	[19.]
* 7.	[__]	[___.]

Natural Sand... 1
Crushed or Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

* 8. TYPE OF MINERAL FILLER [3]
Stone Dust... 1 Hydrated Lime... 2 Portland Cement... 3
Fly Ash... 4 Other (Specify)... 5 _____

BULK SPECIFIC GRAVITIES:

* 9. COARSE AGGREGATE (AASHTO T85 or ASTM C127) [2.663]

*10. FINE AGGREGATE (AASHTO T84 or ASTM C128) [2.634]

*11. MINERAL FILLER (AASHTO T100 or ASTM D854) [__.__4]

*12. AGGREGATE COMBINATION (CALCULATED) [2.647]

13. EFFECTIVE SPECIFIC GRAVITY OF AGGREGATE COMBINATION (CALCULATED) [2.663]

AGGREGATE DURABILITY TEST RESULTS (CODES, TABLE A.13)

TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
14. Coarse	[01]	[__20.__]
15. Coarse	[__ __]	[__ __ __.__]
16. Coarse	[__ __]	[__ __ __.__]
17. Coarse and Fine - Combined	[__ __]	[__ __ __.__]

18. POLISH VALUE OF COARSE AGGREGATES SURFACE LAYER ONLY (AASHTO T279, ASTM D3319) [__4]

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA SHEET 11 PLANT-MIXED ASPHALT BOUND LAYERS ASPHALT CEMENT PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 68

*1. LAYER NUMBER (FROM CONSTRUCTION SHEET 4) [__]

*2. ASPHALT GRADE (SEE ASPHALT CODE SHEET, TABLE A.16) [04]
(IF OTHER, SPECIFY) _____

*3. SOURCE (SEE SUPPLY CODE SHEET, TABLE A.14) [19]
(IF OTHER, SPECIFY) _____

4. SPECIFIC GRAVITY OF ASPHALT CEMENT (AASHTO T228) [1.022]

ORIGINAL ASPHALT CEMENT PROPERTIES **(If available from supplier)**

5. VISCOSITY OF ASPHALT AT 140°F (Poises) (AASHTO T202) [_ _ _ _ _ _.]

6. VISCOSITY OF ASPHALT AT 275°F (Centistokes) (AASHTO T202) [_ _ _ _._ _]

7. PENETRATION AT 77°F (AASHTO T49) (Tenths of a mm) (100 g., 5 sec.) [_ _ _ _.]

ASPHALT MODIFIERS (SEE TYPE CODE, A.15)

		TYPE	QUANTITY (%)
8.	MODIFIER #1	[_ _]	[_ _.]
9.	MODIFIER #2 (IF OTHER, SPECIFY) _____	[_ _]	[_ _.]

10. DUCTILITY AT 77°F (cm) (AASHTO T51) [_ _ _.]

11. DUCTILITY AT 39.2°F (cm) (AASHTO T51) [_ _ _.]

12. TEST RATE FOR DUCTILITY MEASUREMENT AT 39.2°f (cm/Min) [_ _ _.]

13. PENETRATION AT 39.2°F (AASHTO T49) (Tenths of a mm) (200 g., 60 sec.) [_ _ _.]

14. RING AND BALL SOFTENING POINT (AASHTO T53) (°F) [_ _ _.]

NOTE: If emulsified or cutback asphalt was used, enter "N" in the spaces for "Original Asphalt Cement Properties".

PREPARER R Sirst EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 12 PLANT-MIXED ASPHALT BOUND LAYERS MIXTURE PROPERTIES	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 68

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

*2. TYPE OF SAMPLES [1]
COMPACTED IN LABORATORY... 1 TAKEN FROM TEST SECTION... 2

*3. MAXIMUM SPECIFIC GRAVITY (NO AIR VOIDS) [2.429]
(AASHTO T209 OR ASTM D2041)

BULK SPECIFIC GRAVITY (ASTM D1188)

*4. MEAN [2.367] NUMBER OF TESTS [__1.]
5. MINIMUM [__.___] MAXIMUM [__.___]
6. STD. DEV. [__.___]

ASPHALT CONTENT (PERCENT WEIGHT OF TOTAL MIX - AASHTO T164 OR ASTM D2172)

*7. MEAN [5.13__] NUMBER OF SAMPLES [__1.]
8. MINIMUM [__.___] MAXIMUM [__.___]
9. STD. DEV. [__.___]

PERCENT AIR VOIDS

*10. MEAN [3.8__] NUMBER OF SAMPLES [__1.]
11. MINIMUM [__.___] MAXIMUM [__.___]
12. STD. DEV. [__.___]

*13. VOIDS IN MINERAL AGGREGATE (Percent) [14.7]

*14. EFFECTIVE ASPHALT CONTENT (Percent) [__.__]

*15. MARSHALL STABILITY (lbs) (AASHTO T245 OR ASTM D1559) [3564.__]

*16. NUMBER OF BLOWS [75]

*17. MARSHALL FLOW (Hundredths of an Inch) [___8.]
(AASHTO T245 OR ASTM D1559)

*18. HVEEM STABILITY (AASHTO T246 OR ASTM D1561) [__N.]

*19. HVEEM COHESIOMETER VALUE (GRAMS/25mm of Width) [___N.]
(AASHTO T246 OR ASTM 1561)

*20. TYPE OF ANTISTRIPPING AGENT USED [__N]
(SEE TYPE CODES, TABLE A.21) OTHER (SPECIFY) _____

*21. ANTISTRIPPING AGENT USED: LIQUID... 1 SOLID... 2 [N]

*22. AMOUNT OF ANTISTRIPPING AGENT USED (Percent) [__N.__]

(LIQUID: enter percent of asphalt cement weight SOLID: enter percent of aggregate weight.)

PREPARER R Sarot EMPLOYER NCE DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 13 PLANT-MIXED ASPHALT BOUND LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~51~~ 68

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-23-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]

*3 ASPHALT CONCRETE PLANT AND HAUL

	Type	Name	Haul Distance (Mi)	Time (Min)	Layer Number
Plant 1	[ ]	UNITED METRO #1	[45]	[60]	[ ]
Plant 2	[ ]		[ ]	[ ]	[ ]

Plant Type: Batch..... 1 Drum Mix.... 2 Other...3 Specify ____

4. MANUFACTURER OF ASPHALT CONCRETE PAVER BLAW KNOX

5. MODEL DESIGNATION OF ASPHALT CONCRETE PAVER PF 500

6. SINGLE PASS LAYDOWN WIDTH (Feet) [12.0]

7. ~~PATB~~ BTB PLACEMENT LIFTS: Layer Number [ ]

Nominal First Lift Placement Thickness (Inches) [4.0]

Nominal Second Lift Placement Thickness (Inches) [.]

Nominal Third Lift Placement Thickness (Inches) [.]

8. SIGNIFICANT EVENTS DURING CONSTRUCTION (disruptions, rain, equip. problems, etc.) NCE NOT PRESENT DURING CONSTRUCTION. NO PROBLEMS NOTED.

PREPARER D. FEITH EMPLOYER NCE DATE 2/14/94

SPS-2 CONSTRUCTION DATA
SHEET 14
PLANT-MIXED ASPHALT BOUND LAYERS
COMPACTION DATA

* STATE CODE [04]
* SPS PROJECT CODE [02]
* TEST SECTION NO [~~51~~ 91] 68

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [08-23-93]
*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [08-23-93]
*3. LAYER NUMBER [__]

*4. MIXING TEMPERATURE (°F) [___.]

5. LAYDOWN TEMPERATURES (°F)
Mean..... [225°] Number of Tests .. . [__.]
Minimum..... [___] Maximum . ___.]
Standard Deviation... [__.__]

ROLLER DATA

	Roller Code #	Roller Description	Gross Wt (Tons)	Tire Press (psi)	Frequency (Vibr /Min)	Amplitude (Inches)	Speed (mph)
6	A	Steel-Whl Tandem	___.__				
7	B	Steel-Whl Tandem	___.__				
8	C	Steel-Whl Tandem	___.__				
9	D	Steel-Whl Tandem	___.__				
10	E	Pneumatic-Tired	___.__	___.__			
11	F	Pneumatic-Tired	___.__	___.__			
12	G	Pneumatic-Tired	___.__	___.__			
13	H	Pneumatic-Tired	___.__	___.__			
14	I	Single-Drum Vibr.	___.__		___.__	___.__	___.__
15	J	Single-Drum Vibr.	___.__		___.__	___.__	___.__
16	K	Single-Drum Vibr.	___.__		___.__	___.__	___.__
17	L	Single-Drum Vibr.	___.__		___.__	___.__	___.__
18	M	Double-Drum Vibr.	15.0		___.__	___.__	___.__
19	N	Double-Drum Vibr.	15.0		___.__	___.__	___.__
20	O	Double-Drum Vibr.	___.__		___.__	___.__	___.__
21	P	Double-Drum Vibr.	___.__		___.__	___.__	___.__
22	Q	Other					

	COMPACTION DATA	First Lift	Second Lift	Third Lift	Fourth Lift
	BREAKDOWN				
23	Roller Code (A-Q)	_	_	_	_
24	Coverages	__.	__.	__.	__.
	INTERMEDIATE				
25	Roller Code (A-Q)	_	_	_	_
26	Coverages	__.	__.	__.	__.
	FINAL				
27	Roller Code (A-Q)	_	_	_	_
28	Coverages	__.	__.	__.	__.
29	Air Temperature (°F)	___	___	___	___.__
30	Compacted Thickness (In)	4.0	___	___	__.__
31	Curing Period (Days)	15	___	___	___.__

PREPARER R Szrst EMPL .. NCL DATE 2/13/94

SPS-2 CONSTRUCTION DATA SHEET 15 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[57]~~ 68

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. AVERAGE CONTRACTION JOINT SPACING (Feet) [15.0]

3. (RANDOM JOINT SPACING, IF ANY: _____)

* 4. SKEWNESS OF JOINTS (ft/lane) [N.__]

* 5. TRANSVERSE CONTRACTION JOINT LOAD TRANSFER SYSTEM [1]
   - Round Dowels..... 1
   - Aggregate Interlock..... 2
   - Other (Specify) _____ 3

* 6. ROUND DOWEL DIAMETER (Inches) [1.25]

* 7. DOWEL SPACING (Inches) [12.]

8. DISTANCE OF NEAREST DOWEL FROM OUTSIDE LANE-SHOULDER EDGE (Inches) [12.0]

9. DOWEL LENGTH (Inches) [18.]

10. DOWEL COATING [1]
   - Paint and/or Grease..... 1
   - Plastic..... 2
   - Monel..... 3
   - Stainless Steel..... 4
   - Epoxy..... 5
   - Other (Specify) _____ 6

11. METHOD USED TO INSTALL MECHANICAL LOAD TRANSFER DEVICES [1]
   - Preplaced on Baskets..... 1
   - Mechanically Installed..... 2
   - Other (Specify) _____ 3

12. DOWEL ALIGNMENT CHECKED BEFORE PLACEMENT (Y/N) [Y]

13. DOWEL ALIGNMENT CHECKED AFTER PLACEMENT (Y/N) [N]

If Yes, describe method used _____
(e.g. Pachometer, Ground Penetrating Radar)

PREPARER R Senft EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 16 PORTLAND CEMENT CONCRETE LAYERS-JOINT DATA CONT'D	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 68

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [__]

* 2. METHOD USED TO FORM TRANSVERSE JOINTS [1]
Sawed..... 1 Metal Insert.....3
Plastic Insert..... 2
Other (Specify) _____ 4

* 3. TYPE OF LONGITUDINAL JOINT (BETWEEN LANES) [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

* 4. TYPE OF SHOULDER-TRAFFIC LANE JOINT [2]
Butt..... 1 Insert Weakened Plane..... 3
Sawed Weakened Plane..... 2
Other (Specify) _____ 4

*5. AVERAGE DEPTH OF SAWCUT, FROM MEASUREMENTS (Inches)..... [__.__ __]

*6. TIME INTERVAL BETWEEN CONCRETE PLACEMENT AND SAWCUT (HOURS)..... [__ __8.]

7. TRANSVERSE JOINT SEALANT TYPE (AS BUILT) [4]
Preformed (Open Web)..... 1 Rubberized Asphalt..... 3
Asphalt..... 2 Low-Modulus Silicone..... 4
Other (Specify) _____ 5

TRANSVERSE JOINT SEALANT RESERVOIR (AS BUILT)

8. WIDTH, (Inches)..... [__.44]

9. DEPTH, (Inches)..... [1.25]

LONGITUDINAL JOINT SEALANT RESERVOIR (AS BUILT)

10. WIDTH, (Inches)..... [__.44]

11. DEPTH, (Inches)..... [1.25]

12. BETWEEN LANE TIE BAR DIAMETER (Inches) [__.63]

13. BETWEEN LANE TIE BAR LENGTH (Inches) [24.]

14. BETWEEN LANE TIE BAR SPACING (Inches) [__ __.__]

SHOULDER-TRAFFIC LANE JOINT SEALANT RESERVOIR (AS BUILT)

15. WIDTH, (Inches)..... [__.44]

16. DEPTH, (Inches)..... [1.25]

PREPARER R Scott EMPLOYER NCE DATE 3/2/94

SPS-2 CONSTRUCTION DATA SHEET 18 PORTLAND CEMENT CONCRETE LAYERS - MIXTURE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[57]~~ 68

*1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP [__]

MIX DESIGN (OVEN DRIED WEIGHT - PER CUBIC YARD) 550 mix

*2. Coarse Aggregate (Pounds)..... [1939.]

*3. Fine Aggregate (Pounds)..... [1285.]

*4. Cement (Pounds)..... [__400.]

*5. Water (Pounds)..... [__232.]

*6. TYPE CEMENT USED (See Cement Type Codes, Table A.11) [42]
(If Other, Specify _____)

*7. ALKALI CONTENT OF CEMENT, (PERCENT BY WEIGHT OF CEMENT) [__ __.4]

ADMIXTURES (PERCENT BY WEIGHT OF CEMENT)

		TYPE CODE		AMOUNT
*8.	ADMIXTURE #1	[1.0]		[100.__]
*9.	ADMIXTURE #2	[0.8]	25 oz/cy	[__ __ __.__]
*10.	ADMIXTURE #3	[0.1]	2 oz/cy	[__ __ __.__]

(See Cement Admixture Codes, Table A.12)
(If Other, Specify) _____)

AGGREGATE DURABILITY TEST RESULTS
(SEE DURABILITY TEST TYPE CODES, TABLE A.13)

	TYPE OF AGGREGATE	TYPE OF TEST	RESULTS
11.	Coarse	[__ __]	[__ __ __.__]
12.	Coarse	[__ __]	[__ __ __.__]
13.	Coarse	[__ __]	[__ __ __.__]
14.	Coarse and Fine	[__ __]	[__ __ __.__]

PREPARER R Szot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 19 PORTLAND CEMENT CONCRETE LAYERS MIXTURE DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[59]~~ 68

* 1. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) PCCP 550 [__]

COMPOSITION OF COARSE AGGREGATE	TYPE	PERCENT
* 2. #57 Pioneer / Salt River 3/4"	[3]	[100.]
* 3.	[__]	[___.]
* 4.	[__]	[___.]

Crushed Stone.... 1 Manufactured gravel..... 2 Crushed Gravel..... 3
Crushed Slag..... 4 Lightweight..... 5 Recycled Concrete... 6
Other (Specify)_____ 7

* 5. GEOLOGIC CLASSIFICATION OF COARSE AGGREGATE [__ __.]
(SEE GEOLOGIC CLASSIFICATION CODES, TABLE A.9)

COMPOSITION OF FINE AGGREGATE	TYPE	PERCENT
* 6. Hassayampa / Palmer - ASTM	[1]	[100.]
* 7.	[__]	[___.]
* 8.	[__]	[___.]

Natural Sand... 1
Crushed, Manufactured Sand (From Crushed Gravel or Stone)...2
Recycled Concrete... 3 Other (Specify)_____ 4

9. INSOLUBLE RESIDUE, PERCENT (ASTM D3042) [___.]

10. GRADATION OF COARSE AGGREGATE

Sieve Size	% Passing
2".....	___
1 1/2"....	___
1".....	100
7/8".....	___
3/4".....	80
5/8".....	___
1/2".....	30
3/8".....	12
No. 4.....	2

11. GRADATION OF FINE AGGREGATE

Sieve Size	% Passing
No. 8.....	89
No. 10....	87
No. 16....	77
No. 30....	54
No. 40....	38
No. 50....	23
No. 80....	___
No. 100...	7
No. 200...	3.3

BULK SPECIFIC GRAVITIES:

12. Coarse Aggregate (AASHTO T85 or ASTM C127) [2.67]

13. Fine Aggregate (AASHTO T84 or ASTM C128) [2.65]

PREPARER R Sebot EMPLOYER NCE DATE 2/23/94

SPS-2 CONSTRUCTION DATA SHEET 20 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 68

*1. DATE PAVING OPERATIONS BEGAN (Month-Day-Year) [09-07-93]

*2. DATE PAVING OPERATIONS COMPLETED (Month-Day-Year) [09-07-93]

*3. LAYER NUMBER (FROM CONSTRUCTION DATA SHEET 4) [_]

*4. CONCRETE MIX PLANT AND HAUL

	Name	Haul Distance (Mi)	Time (Min)
Plant 1	TANNER CONCRETE	[__1]	[__4]
Plant 2	_____	[___]	[___]
Plant 3	_____	[___]	[___]

*5. PAVER TYPE [1]
Slip Form Paver.... 1 Side Form... 2
Other (Specify) _____ 3

6. PAVER MANUFACTURER AND MODEL NUMBER GOMACO GP 3000

7. SPREADER TYPE (if applicable) Belt Driven - side feed

8. SPREADER MANUFACTURER AND MODEL NUMBER GOMACO 9500

9. WIDTH PAVED IN ONE PASS (Feet) [22.0]

10. DOWEL PLACEMENT METHOD [N]
Dowel Bar Inserter (DBI)..... 1 Dowel Basket..... 2

11. NUMBER OF VIBRATORS [20]

12. VIBRATOR SPACING (Inches) [14]

13. DEPTH OF VIBRATORS BELOW SURFACE (Inches) [_4.0]

14. ADDITIONAL VIBRATION APPLIED _____

PREPARER R. Sehr EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 21 PORTLAND CEMENT CONCRETE LAYERS PLACEMENT DATA (CONTINUED)	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[52]~~ 68

1. CONSOLIDATION OF MATERIALS [1]
   Internal Vibrators... 1 Vibrating Screeds... 2 Troweling... 3
   Rolling... 4 Tamping... 5
   Other (Specify)... 6 _____

2. FINISHING [1]
   Screeding... 1 Hand-Troweling... 2 Machine-Troweling... 3
   Other (Specify)... 4 _____

3. CURING [1]

Membrane Curing Compound.....	1	Burlap-Polyethylene Blanket...	5
Burlap Curing Blankets.....	2	Cotton Mat Curing.....	6
Waterproof Paper Blankets.....	3	Hay.....	7
White Polyethylene Sheeting...	4		
Other (Specify)_____	8		

4. TEXTURING [1]

Tine.....	1	Grooved Float.....	4
Broom.....	2	Astro Turf.....	5
Burlap Drag.....	3	None.....	6
Other (Specify)_____	7		

PREPARER R. Senn EMPLOYER NCE DATE 2/12/94

SPS-2 CONSTRUCTION DATA SHEET 22 PORTLAND CEMENT CONCRETE SURFACE LAYER PROFILE DATA	* STATE CODE [04] * SPS PROJECT CODE [02] * TEST SECTION NO. ~~[51]~~ 68

1. DATE PROFILE MEASURED (Month-Day-Year) [__ __ - __ __ - __ __]

2. PROFILOGRAPH TYPE California... 1 Rainhart... 2 [1]

3. PROFILE INDEX (Inches/Mile) [__ __]

4. INTERPRETATION METHOD Manual.. 1 Mechanical.. 2 Computer.. 3 [__]

5. HEIGHT OF BLANKING BAND (Inches) [__.__ __]

6. CUTOFF HEIGHT (Inches) [__.__ __]

7. SURFACE PROFILE USED AS BASIS OF INCENTIVE PAYMENT? (YES, NO) [____]

8. WAS SURFACE PROFILE CORRECTED BY DIAMOND GRINDING? (YES, NO) [____]

IF YES COMPLETE THE FOLLOWING:

9. DATE DIAMOND GRINDING OPERATIONS BEGAN (Month-Day-Year) [__ __-__ __-__ __]

10. DATE DIAMOND GRINDING OPERATIONS COMPLETED (Month-Day-Year) [__ __-__ __-__ __]

*11. REASON FOR GRINDING [__]
Elimination of Faulting... 1 Elimination of Slab Warping... 2
Improve Skid Resistance... 3
Restoration of Transverse Drainage Slope... 4
Correction of Construction Deficiencies...5
Other (Specify)... 6 _____

12. AVERAGE DEPTH OF CUT (Inches) [__ .__ __]

13. CUTTING HEAD WIDTH (Inches) [__ __ __ .__ __]

14. AVERAGE GROOVE WIDTH (Inches) [__ .__]

15. AVERAGE SPACING BETWEEN BLADES (Inches) [__.__]

PREPARER _____ EMPLOYER _____ DATE _____