

CalTrans PC Pavement

**South side of I-10 between
Meeker on the East and Tyler
on the West (after the 605) in El
Monte, CA**

PC pavement section set up at Pomeroy Plant in Perris, CA



Mock up practice for CalTrans



Mock up installing section to the Anchor / Mid section of the pavement



Good picture of the connection details



Jon Grafton from Pomeroy explaining details to members of PCMAC



Picture of the connection details



PC Pavement waiting in Pomeroy yard



Getting ready to load at the Pomeroy plant in Perris, CA



PC Pavement section showing holes for PC strand



1st section of PC Pavement being set on I-10 Project



2nd piece of PC pavement being set



Setting PC pavement on I-10



Installation of PC pavement quickly proceeds



Setting of the PC pavement with the crane parked on installed pieces



CalTrans inspectors watching installation



Epoxy Coated PC strand cut to length ready to be installed into the PC ducts



Getting ready to post tension the epoxy coated PC strand in the slabs



Epoxy Coated Strand was used for the Post Tensioning of the slabs



Epoxy Coated PC strand anchored at the dead end



Epoxy Coated PC Strand from both directions waiting to be stressed



Getting ready to post tension the PC pavement slabs



DSI getting ready to Post Tension PC pavement sections



DSI post tensioning PC pavement sections with CalTrans looking on



Epoxy Coated PC strand being tensioned for one directions of the PC pavement sections



Looking down the section on I-10
as it is ready to be grouted



Filling the grout into the slots used for post tensioning



Mixing of the high pressure grout used to fill the post tension ducts



Grouting into the plastic pipes for the PT ducts



CalTrans inspector checking on PT installation of epoxy coated PC strand



I-10 section with PC Pavement ready for years of trouble free service



Acknowledgements

- A special thanks to:

CalTrans pavement section in Los Angeles

- Jon Grafton and Pomeroy Corporation (fabricator of PC pavement sections)
- Dave Merritt Project Manager The Transtec Group (designer of the PC pavement sections)
- DSI Post Tension Contractor
- Yeager Skanska General Contractor

Red Dog Mine

Teck Cominco, Alaska

Red Dog Mine is the worlds
largest producer of Zinc
Concentrate

Red Dog Mine

- The Red Dog Mine had a problem at their mine loading station. The trucks that they use weigh 200 tons. The soil underneath their pavement is Tundra, which is unstable and subject to freeze / thaw. To make matters worse, there biggest problem area, coming out of the mine, the 200 ton trucks have to make a hard right turn to get out to the highway road to the port. Nothing they did seemed to solve this problem, until they contacted Chuck Prussack V P of Engineering at Central Pre-Mix in Spokane, Washington.

Solution

- Chuck Prussack designed a “pie” shaped prestressed / post tension sections of PC pavement to meet the needs of the Red Dog Mine Trucks.
- The prestressed / post tensioned PC pavement sections were designed to solve the problems of the unstable Tundra soil, the extremely heavy loads, and the sideward forces of the heavy loads making a sharp right hand turn.

Installation of the “Pie” shaped PC Pavement sections at the Red Dog Mine



Getting ready to post tension the PC Pavement sections



The first truck rolling out on the PC Pavement.
The vent on the left is used to keep the Tundra
cool and solid under the road bed



200 ton trucks on unstable Tundra soil making hard turns puts the PC Pavement to the test



If PC Pavement can perform under these conditions, it will out perform conventionally poured concrete for roads anywhere!



PC Pavement is more than an answer for problem applications; It is the road design of the future



PC Pavement

- Prestress post tension pavement sections not only solve problems for mines like the Red Dog Mine, it can also give added life for roadways around the United States.
- Unlike other pavement methods used, PC Pavement can be placed in cold or rainy weather;
- you don't have to worry about cold temperatures effecting curing of the Pavement sections;

Benefits of PC Pavement Continued

- PC Pavement sections can quickly be installed on road beds cutting down on lane closures that drag on and put crews at risk longer than they need to be;
- The quality of the high strength concrete along with the prestressing and post tensioning helps insure that the PC Pavement will far outlast other road pavement methods;
- The prestressed post tensioned slabs being in compression help insure there is no cracking from problems that could happen under the road bed that would weaken and destroy other pavement methods

PC Pavement Benefits Continued

- There is consistency of the PC pavement sections due to it being manufactured in a PCI certified plant that helps guarantee quality;
- Whether you install PC Pavement for maintenance reasons or new pavement sections, PC Pavement sections give you flexibility of installation as well as speed of installation; along with a superior designed product that will out last, out perform, and reduce the life time cost of any highway!

Acknowledgements

- Red Dog Mine
- Chuck Prussack and Central Pre-Mix of Spokane, Washington.