

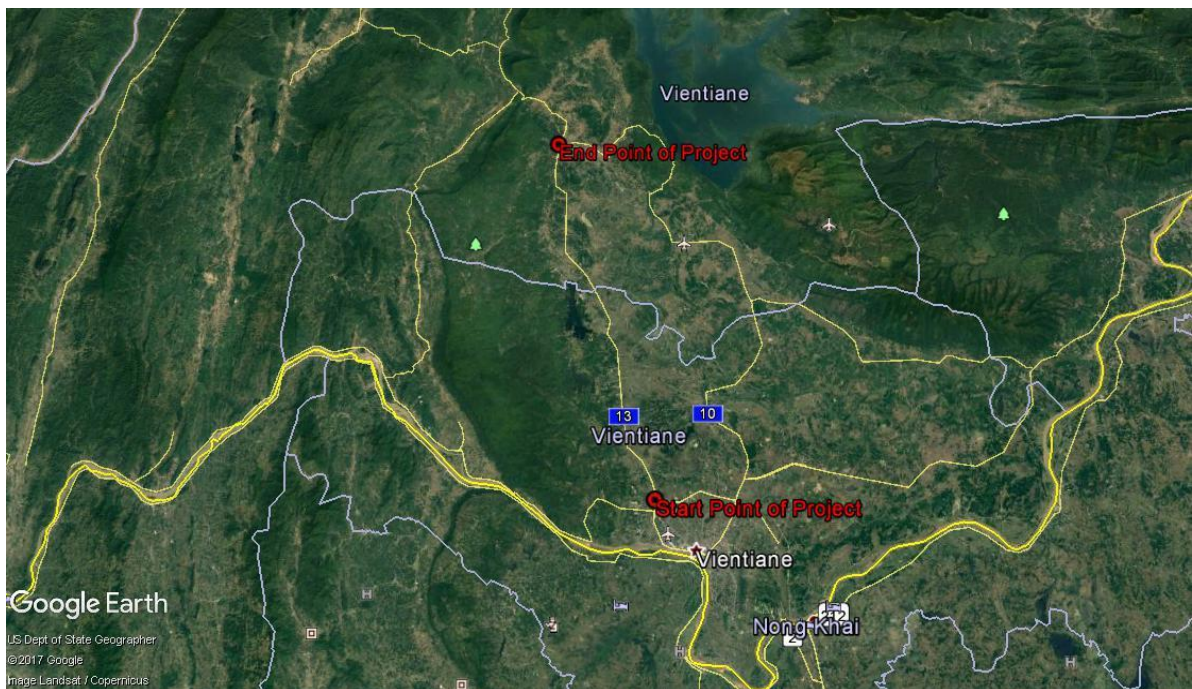


**LAO PEOPLE'S DEMOCRATIC REPUBLIC**  
**PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY**

**MINISTRY OF PUBLIC WORKS AND TRANSPORT**  
**DEPARTMENT OF ROADS**

**NR 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**(SIKEUTH JUNCTION – PHONHONG)**

**PART III**  
**REPORT ON PAVEMENT INVESTIGATION**



PREPARED BY :



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**VIENTIANE**  
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**PROJECT CODE : SD-262-17**

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## ABBREVIATIONS

AASHTO	:	American Association of State Highway and Transportation Officials
AC	:	Asphalt Concrete
B	:	Benkelman Beam
CBR	:	California Bearing Ratio
DCP	:	Dynamic Cone Penetrometer
FDD	:	Field Dry Density
Kg	:	Kilogram
Km	:	Kilometer
LTEC	:	Lao Transport Engineering Consultant
MC	:	Moisture Contents
MDD	:	Maximum Dry Density
m	:	Meter
mm	:	Millimeter
Bl	:	Blow
OMC	:	Optimum Moisture Contents
TP	:	Test Pit
TRL	:	Transport Research Laboratory
USCS	:	Unified Soil Classification System

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## PAVEMENT INVESTIGATIONS REPORT

### 1. INTRODUCTION

This report described about the results of existing pavement investigations were carried out on the National Road Number 13 North (Sikeuth Junction (km 12) to junction (km70) at Phonhong District ), see location map (Figure 1 ). The results of investigation is providing to support the design of the road pavement.

The pavement investigation was carried out by geological investigation team of Lao Transport Engineering Consultant (LTEC).

The field exploration team mobilized to the site on 02<sup>nd</sup> August 2017 and investigation completed on 31<sup>st</sup> August 2017. The field works carried out during rainy season.

### 2. LOCATION OF PROJECT

This road is a part of National Road Number 13 North , Starts from Sikeuth Junction (km12) to junction (km70) at Phonhong district . The length of road is approximately 57,300 Kilometers. The existing road pavement is double bituminous surface treatment (DBST) with several time of resealing and maintenances.

### 3. SCOPE OF WORKS

The following works have been conducted during field data collection which comprises Road structure of base course, sub-base, sub-grade and natural ground strengths, pavement condition, laboratory CBR and properties of materials from the existing road.

- Take Sampling of base course, sub-base, sub-grade and natural ground materials have been collected by digging test pits approximately 1000 meters interval on both sides of the road.
- Field density tests conducted in the test pits along the alignment of the existing road to determine the in-situ density of the soils encountered.
- Dynamic Cone Penetrometer (DCP) tests performed approximately 250 meters interval on both sides of the road, and has also taken adjacent to test pit location.

- Benkelman Beam deflection test carried out on existing pavement with approximately 1000 meters interval two lanes of the road.
- Laboratory test performed as samples taken from the site. In addition to classification test and compaction test has conducted to determine the Moisture-Density relationships (OMC-MDD). California Bearing Ratio (CBR) test has also conducted to determine the bearing capacity of the soil.

#### 4. FIELD EXPLORATION

The field exploration carried out under the supervision of LTEC's Materials Engineer. During process of work, LTEC appointed a Material Engineer to supervises the investigation team to assure the works have fulfillment with the requirements.

##### 4.1 Dynamic Cone Penetration Tests

Dynamic Cone Penetration (DCP) Tests comprised 280 locations along the existing road and has also taken adjacent to test pit locations. The Dynamic Cone Penetration (DCP) tests were performed in the sub-base, sub-grade and material at the road edges and at the area which road will be widened (about 5.50 meters from existing road edge).

Dynamic Cone Penetration (DCP) tests method is in accordance with Transport Research Laboratory (TRL). Model A 2456. The 60<sup>0</sup> cone is penetrated by blows from a 8 kg hammer dropping freely from 575mm. The cone penetrates through sub-soil up to a maximum depth of 1.00 m below the ground level. The number of blows against penetration of the cone was recorded and this data was input to a computer program calculation of layer depth for average CBR determination, the field CBR is established by the following DCP-CBR relationships chart (see Figure 3) and equation as follow :

$$\text{Log}_{10}(\text{CBR}) = 2.632 - 1.28 \text{Log}_{10}(\text{DCP})$$

DCP is the average Penetrometer in mm per blow for each layer

The location plan of test pit log and DCP test can be seen on Figure: 2.1-2.41

The results of the calculation are shown in appendix A, Table A-1 to A-19.

The DCP profile and test pit log are shown in Appendix B, Figure B1-B280

#### 4.2 Test pits.

Test pits were dug from the surface of existing road structure (32 location) and natural ground surface (42 location) total comprised 74 locations. The size of pit is one cubic meter, explored materials to a maximum depth of one meter below the surface.

In - situ density of the soil was determined using the sand cone replacement method (AASHTO T- 191). The materials encountered by test pits were logged in accordance with Unified Soil Classification System (USCS) (see Figure 4).

The geological profile of the test pit logs record together with the DCP profiles as shown on Figure B-1 to B-280 . Recorded data on field form and took photograph of test pits where it appropriates.

One bulk sample weighting in excess of 40 kg was taken from test pits and placed in to labeled sampling bags. All samples transport to LTEC's laboratory in Vientiane capital for further testing. After collecting the samples, test pits were backfilled and adequately compaction effort were provided by hand whilst filling.

The location plan of test pit log and DCP test and be seen on Figure:2.1to2.41.

The summary of test pit result are shown in Appendix B, table B-1 to B-6.

The DCP profile and test pit log are shown in Appendix B, Figure B-1toB280.

#### 4.3 Benkelman Beam Test

Benkelman Beam deflection measurement of existing pavement has taken on both sides of the road. Measure axle load of loaded truck and adjust the load until axle load meets the requirement of 11 tones, then record; adjust type pressure to 80 psi (5,6 kg/cm<sup>2</sup>). Stop the truck at the test location and record all required data on form. If there is any loose material on the pavement it should be swept clear before finally positioning the truck. Prepare the Benkelman Beam equipment. Check dial gauge moves freely and smoothly. Place beam in position behind truck with beam tip exactly under axle between the two tires. Secure Beam Lock in unlocked position. Switch on vibrator if fitted, or tap beam lightly between pivot

point and dial gauge for example with a pencil. Zero the dial gauge fine scale. Move truck very slowly forward (The speed of the truck is about 2 to 3 Kilometers per hours) Read and record the dial gauge reading as before. The truck shall be driven in the traffic lane at about the same distance from the lane edge as the general truck traffic and in the same direction as the general traffic. Pavement distress was also noted and recorded during the Benkelman Beam testing. Individual rebound reading staggered at zero (0), Maximum and final spacing along both the inner and outer wheel path as well as pavement condition comments are provided on Benkelman Beam data test.

Miscellaneous Equipment:

Other equipment necessary for Benkelman Beam deflection measurement are as follows:

- Loaded truck (with rear axle load of 11 tons. Inflated to a pressure of 80 psi (5,6kg/cm<sup>2</sup>), the tires pressure was checked at frequent intervals).
- Vehicle (Pickup).
- A scale to check the load on the rear axle.
- 2 Benkelman Beams.
- A thermometer with a temperature range of 100 °C.
- Extra 6 volt lantern battery and buzzer.
- Deflection dial gage 0.02 in (smallest division).
- Feeler gage for calibration (suggest two different thicknesses between 0.010 in and 0.070 in).
- Distance measurement equipment.
- Sign, flags, etc... for traffic safety.

## 5. LABORATORY TESTING

Bulk soil samples collected from test pits have taken into the analysis process in the LTEC's laboratory to determine material properties.

The test results are summarized in Appendix B, Table B-1 to B-6).

The laboratory test comprises of the following methods

For soil test:

- Sieve Analysis test, (see Table B-1 to B-6).

Sieve Analysis test in accordance with AASHTO T 88

- Atterberg Limit test, (see Table B-1 to B-6).

Atterberg Limit test in accordance with AASHTO T 89, T 90

- Natural water content test, (see Table B-1 to B-6).

Natural water content test in accordance with AASHTO T 265

- Compaction test, (see Table B-1 to B-6).

Compaction test in accordance with AASHTO T 180

- California Bearing Ratio, (see Table B-1 to B-6).

California Bearing Ratio (CBR) test in accordance with AASHTO T 193  
(4days soaked).

## **6. CONCLUSION**

Property of material in the existing road pavement structures are result from laboratory testing and analysis of material source taken by the field exploration, Highway Engineer should review and consider about material quality in the layer of base course, sub-base, sub-grade embankment and natural material based on the technical requirement for this project.

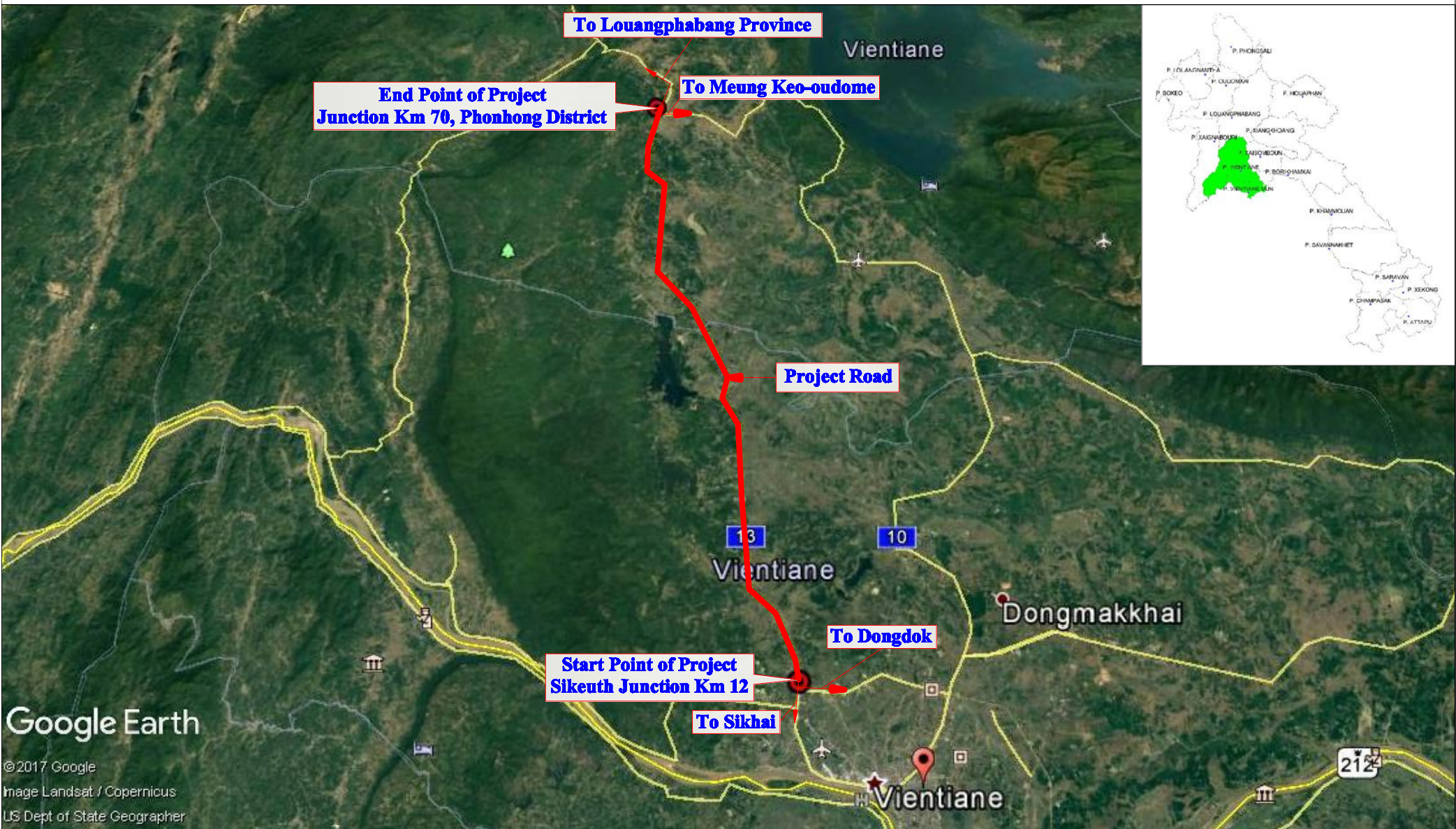
The thickness of each layer of pavement structures should be designed by the Highway Engineer.

More details about soil samples from test pits and test results are shown in appendix A and B.

**7. FIGURE**

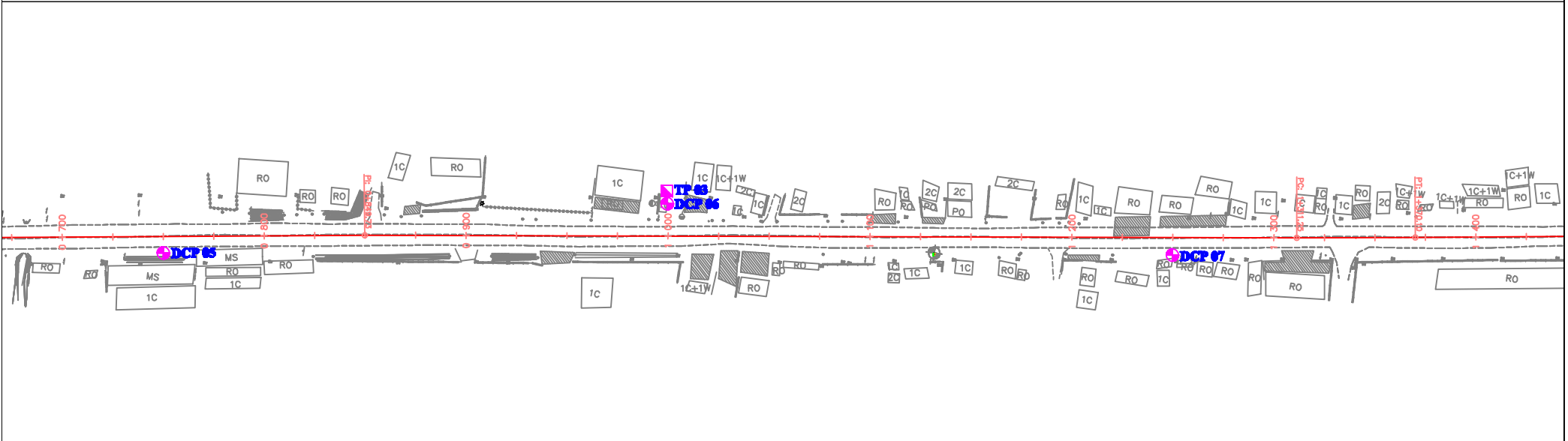
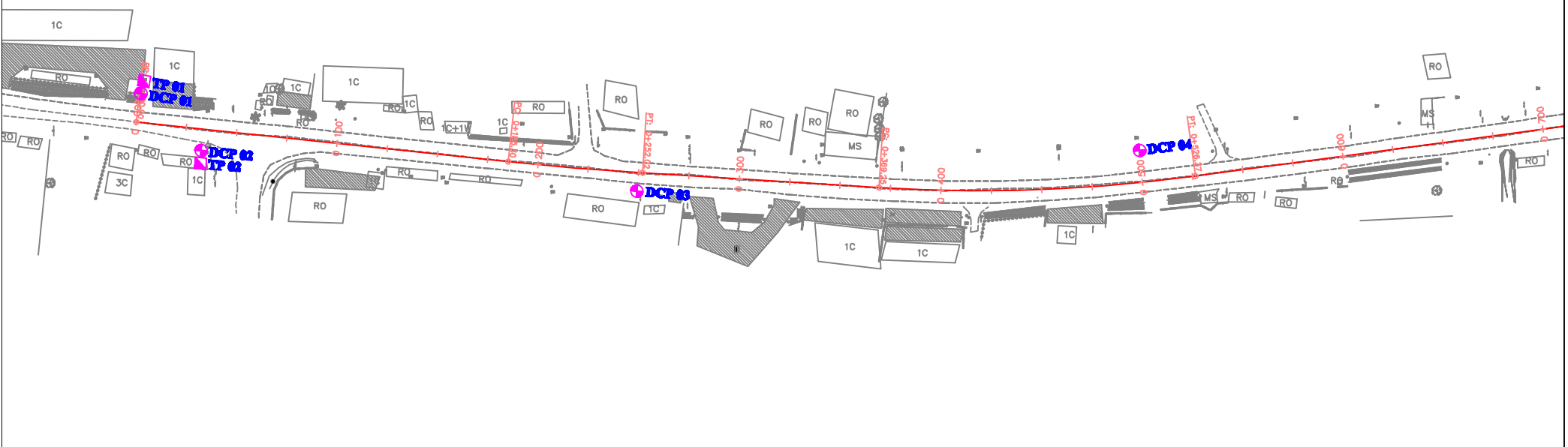
Figure 1	Location Map of Project
Figure 2.1 to 2.41	Location Plan of Test Pits and DCP
Figure 3	DCP - CBR Relationship Chart
Figure 4	Unified Soil Classification System

**LOCATION MAP OF PROJECT**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



**Figure 1 Location Map of Project**

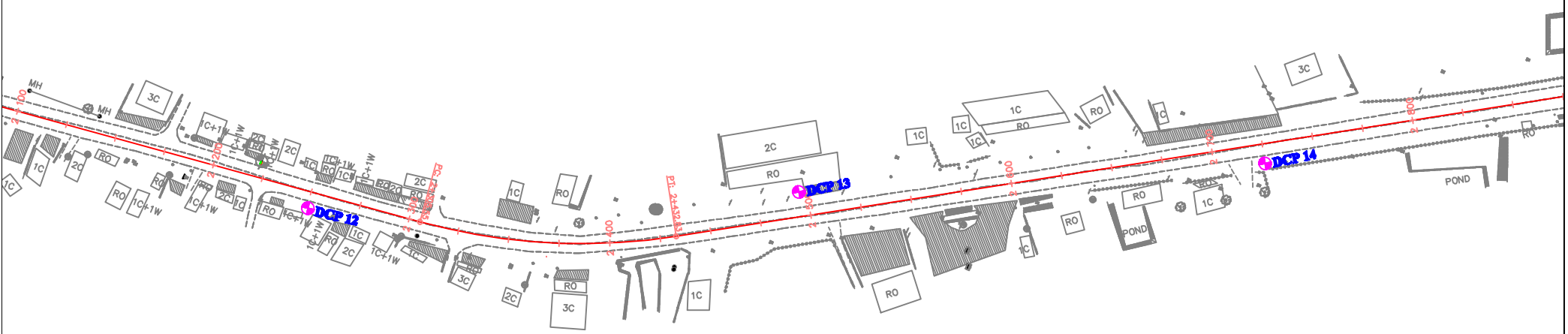
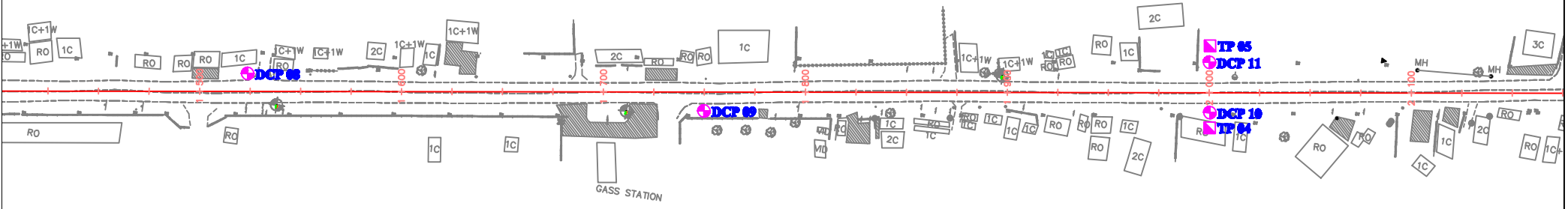
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ◻ - Test Pit Log
  - - DCP Test

**Figure 2.1 Location Plan of Test Pit Log and DCP Test**

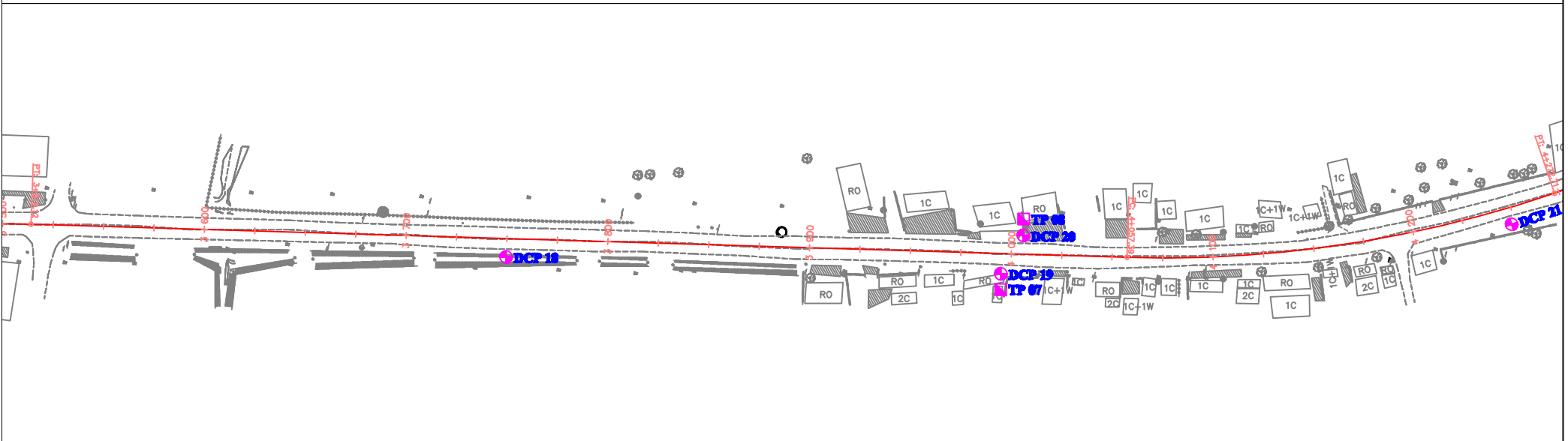
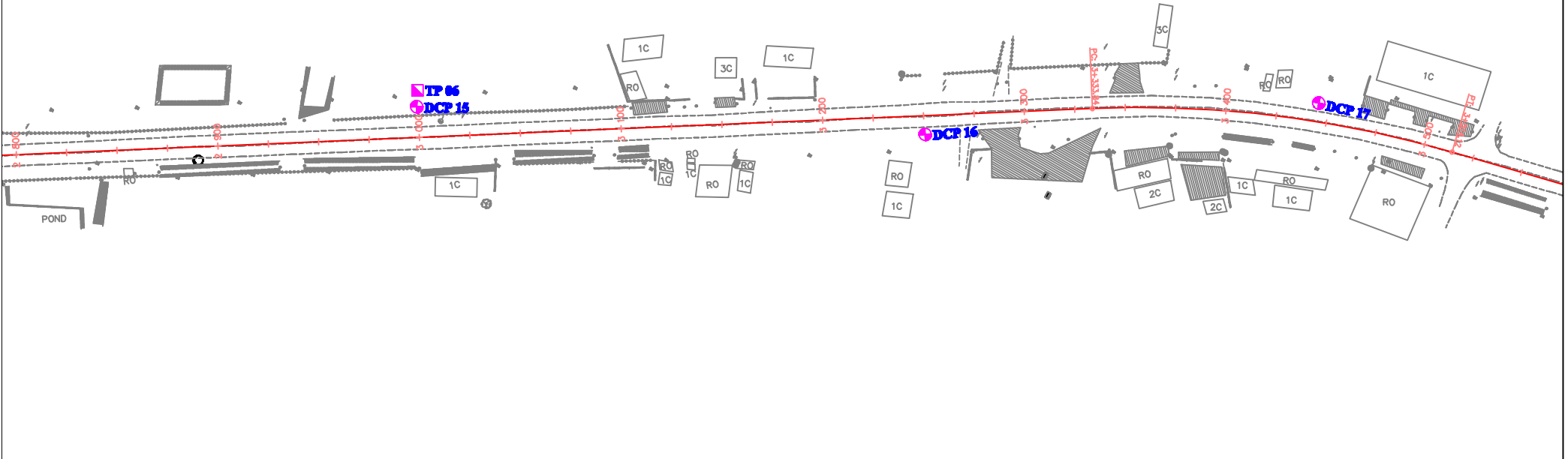
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**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.2 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.3** Location Plan of Test Pit Log and DCP Test

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**

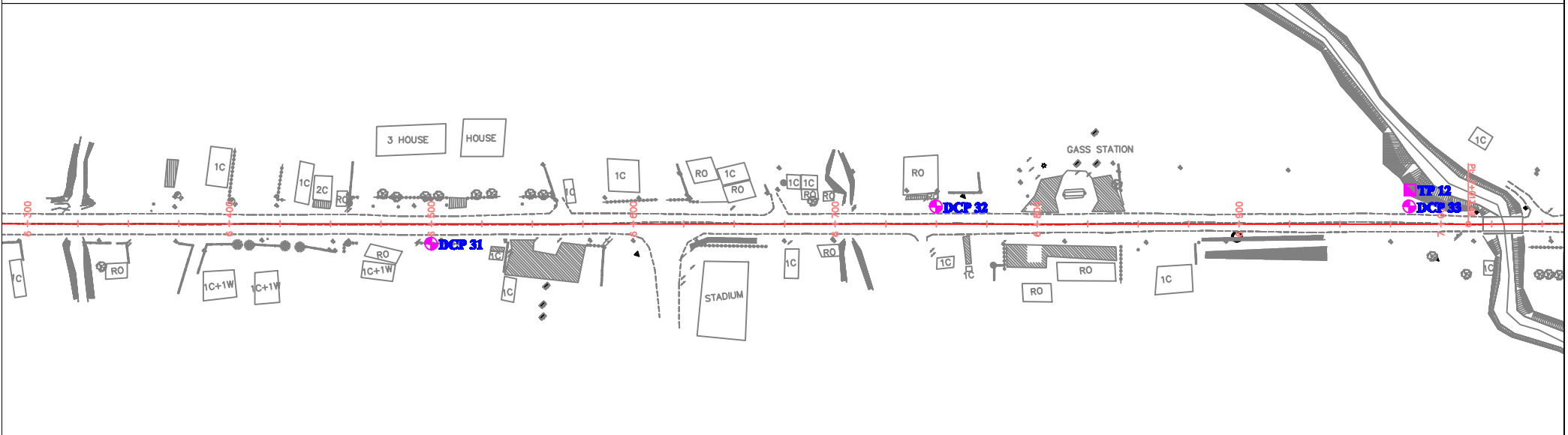
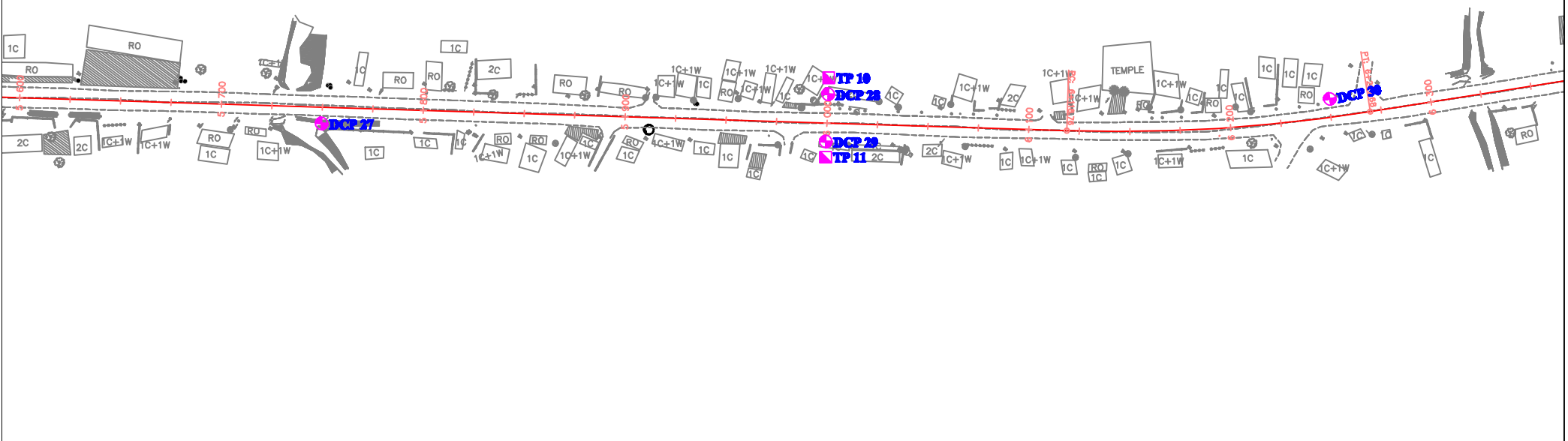


**Legend:**

- - Test Pit Log
- ⊕ - DCP Test

**Figure 2.4** Location Plan of Test Pit Log and DCP Test

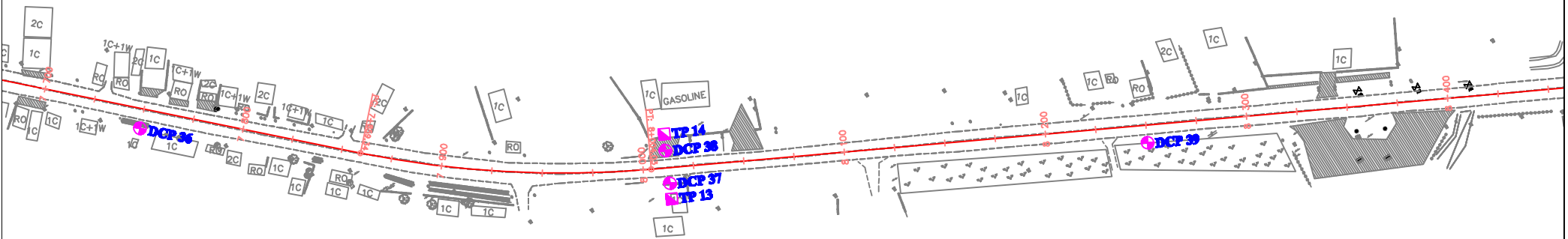
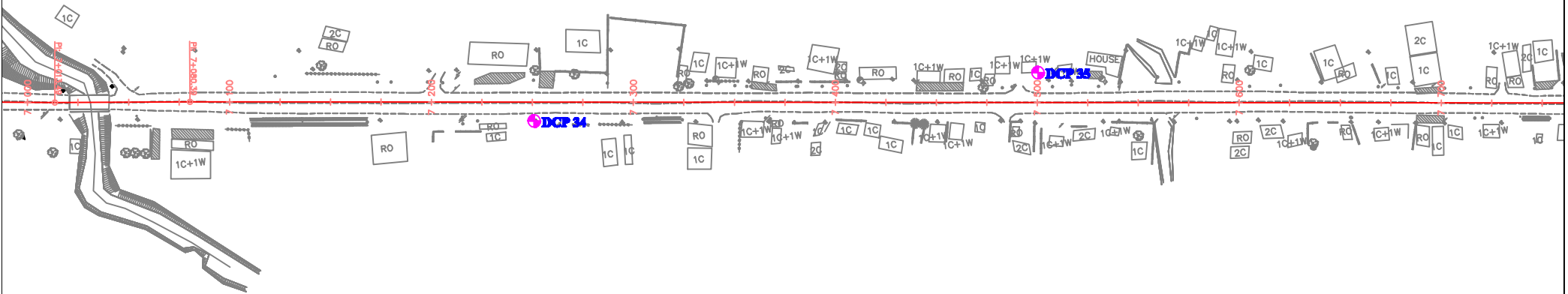
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST  
ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT  
SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- - Test Pit Log
  - - DCP Test

**Figure 2.5** Location Plan of Test Pit Log and DCP Test

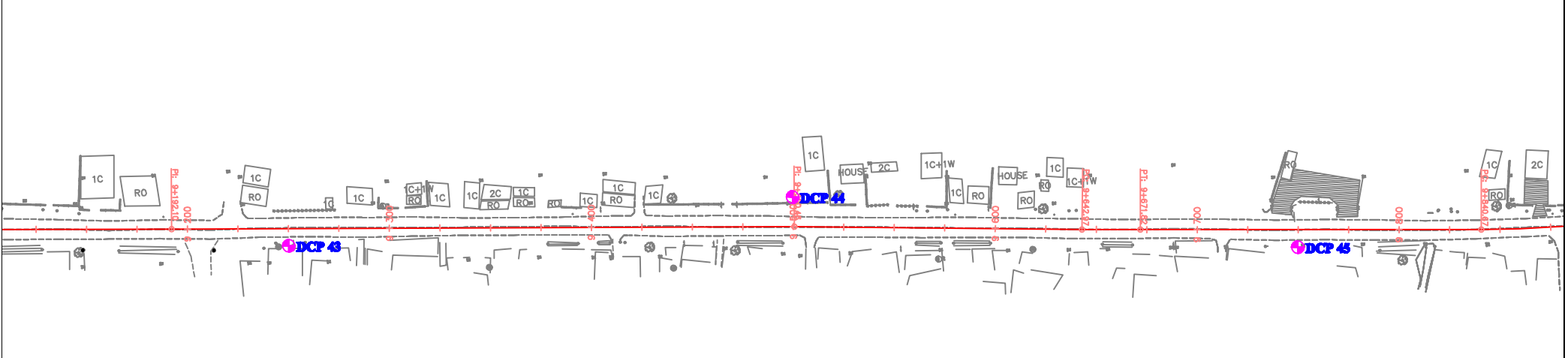
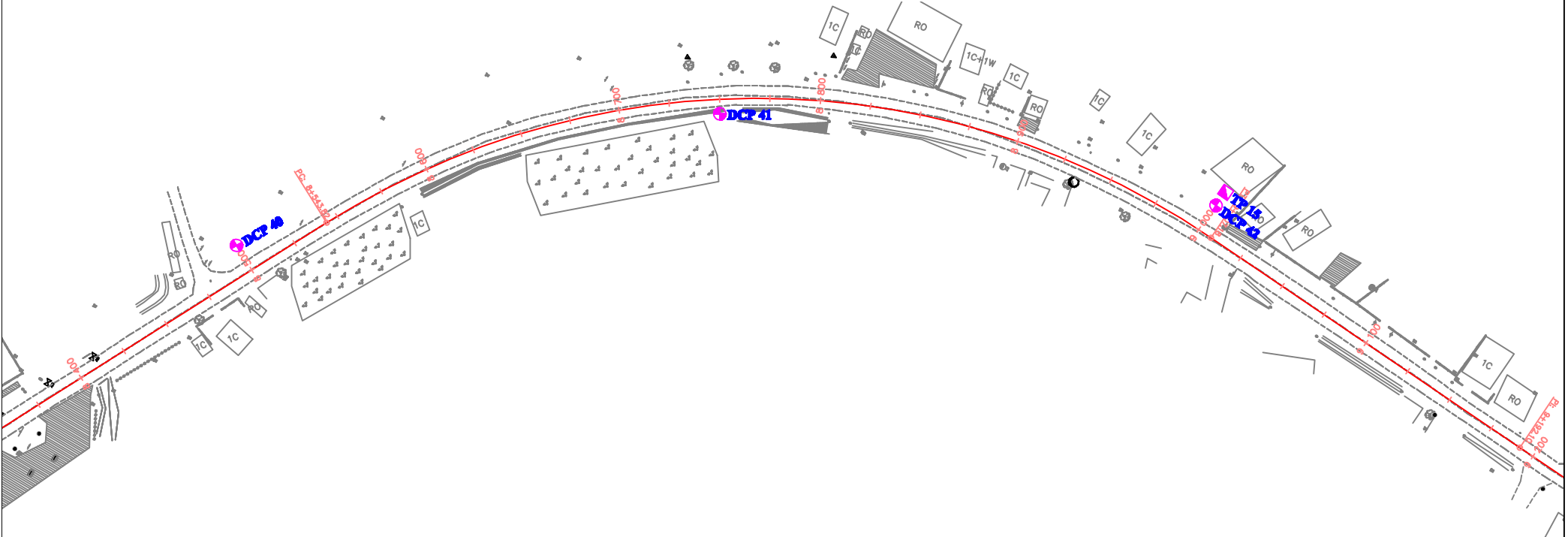
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ◻ - Test Pit Log
  - - DCP Test

**Figure 2.6** Location Plan of Test Pit Log and DCP Test

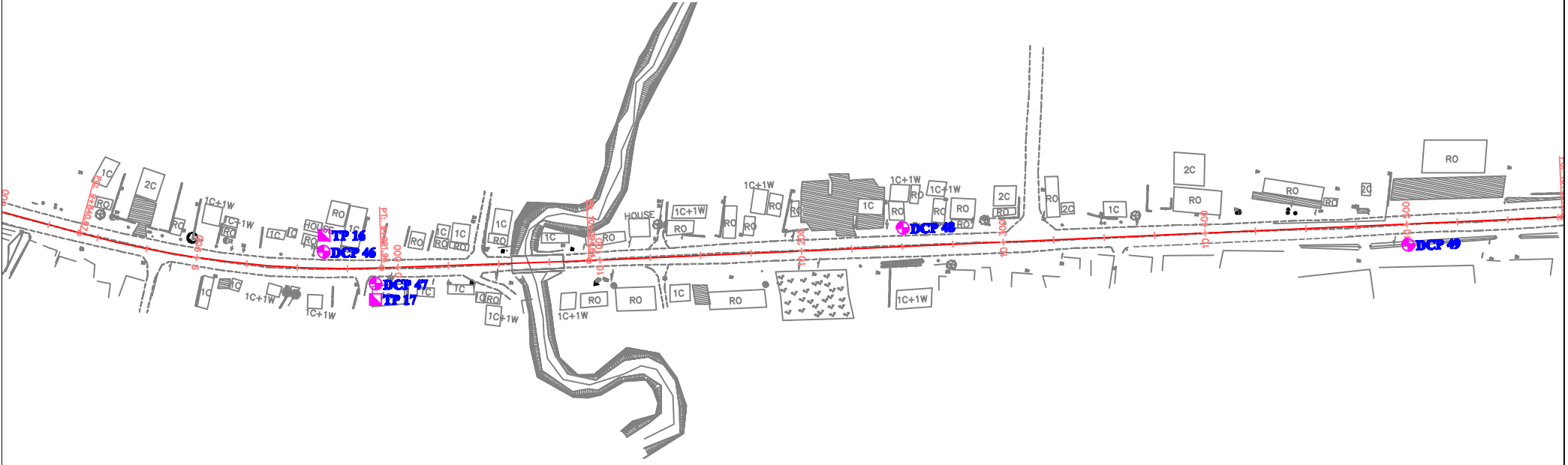
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST  
ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT  
SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - - DCP Test

**Figure 2.7 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**

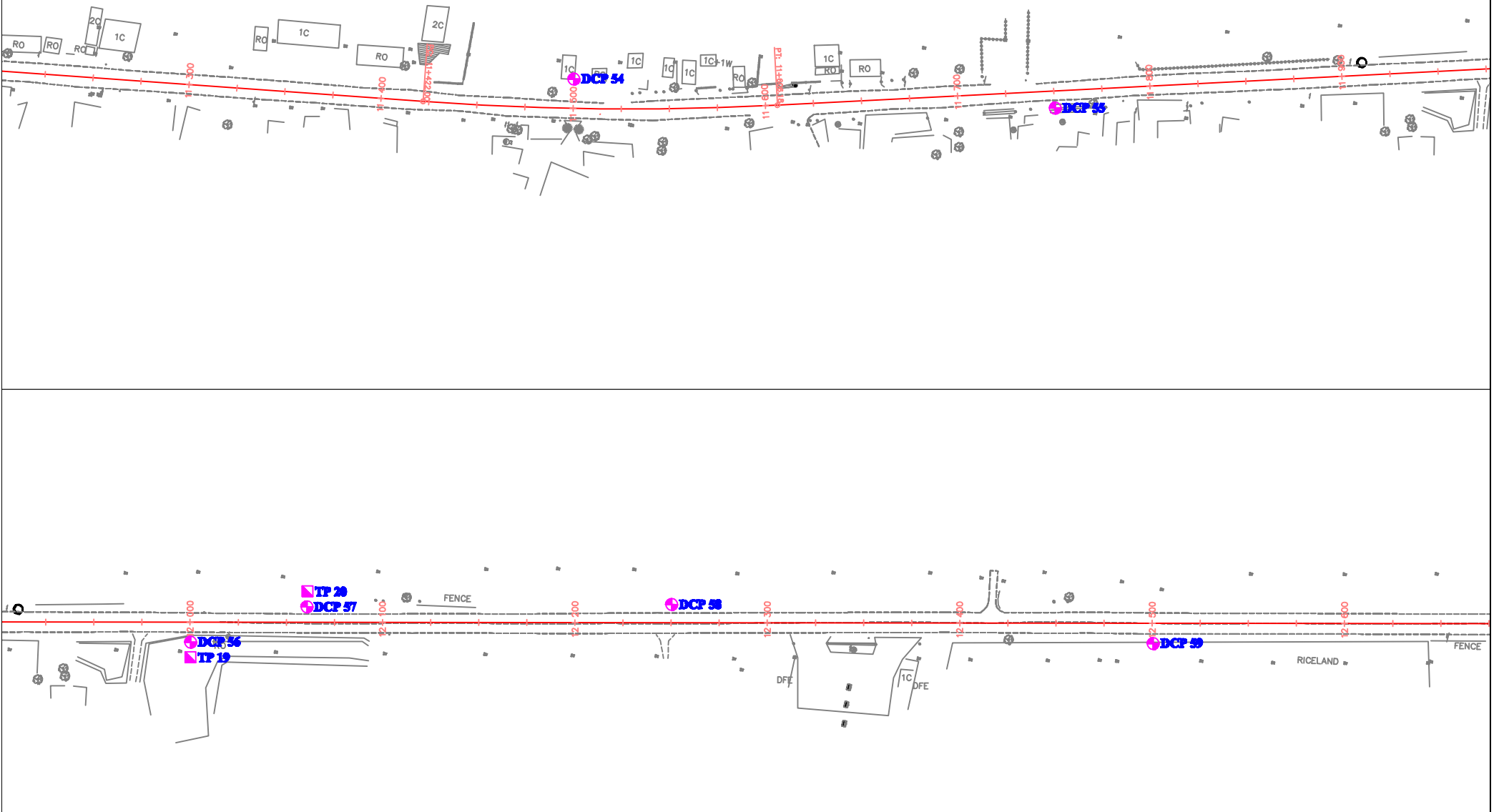


**Legend:**

- - Test Pit Log
- - DCP Test

**Figure 2.8** Location Plan of Test Pit Log and DCP Test

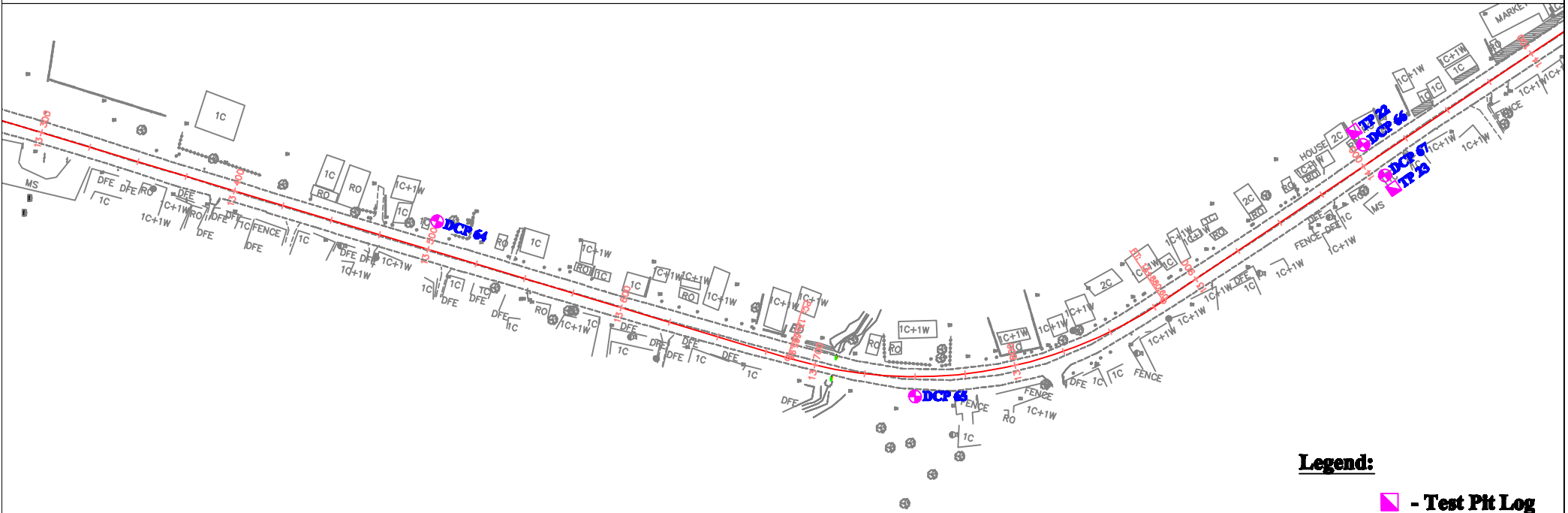
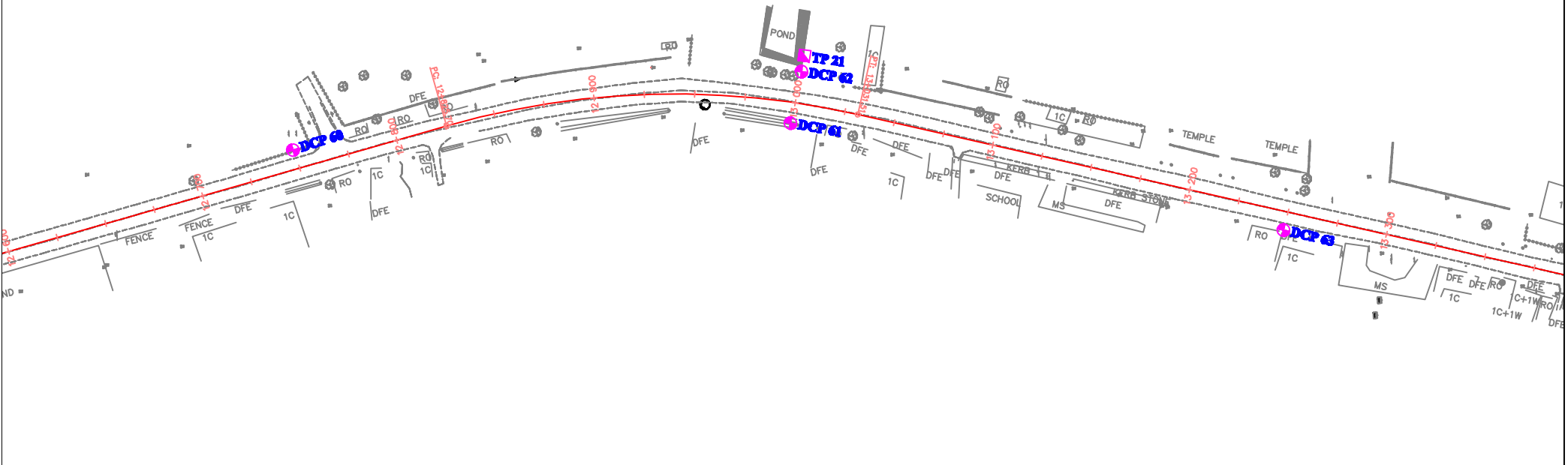
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- Legend:**
- - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.9** Location Plan of Test Pit Log and DCP Test

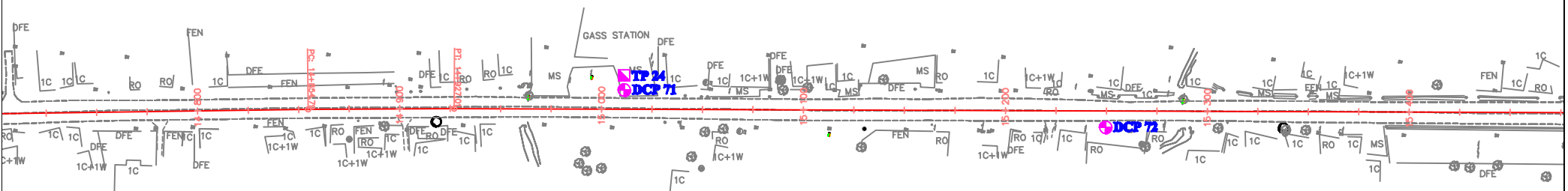
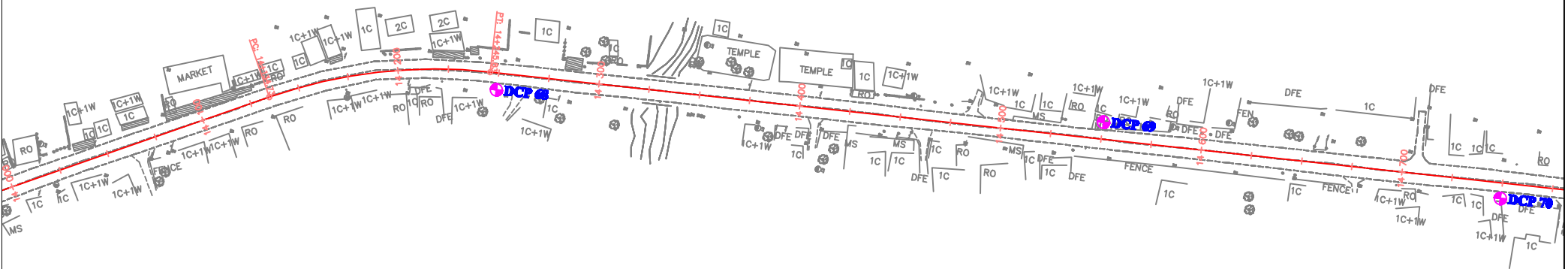
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- Legend:**
- - Test Pit Log
  - - DCP Test

**Figure 2.10 Location Plan of Test Pit Log and DCP Test**

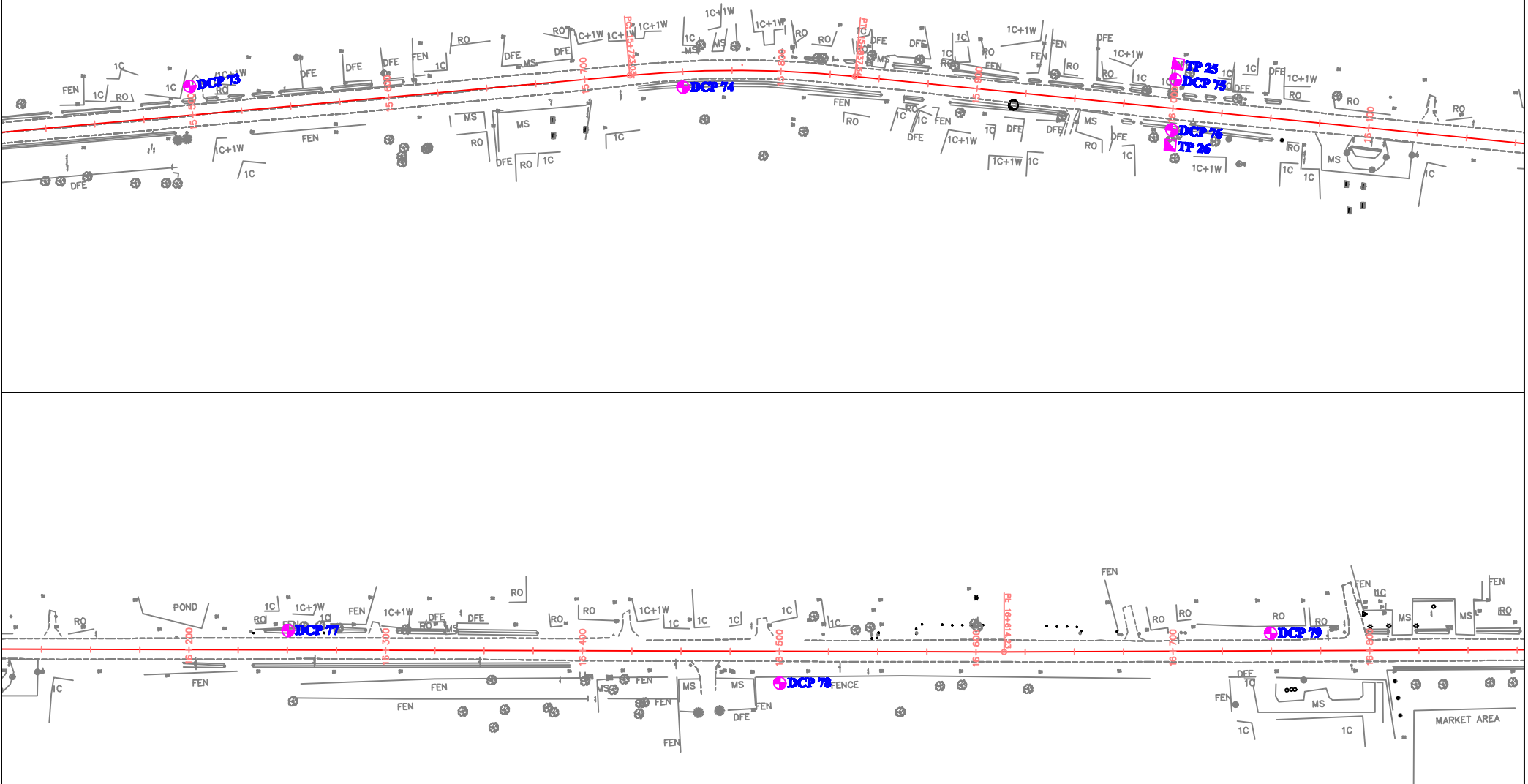
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- Legend:**
- ◻ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.11 Location Plan of Test Pit Log and DCP Test**

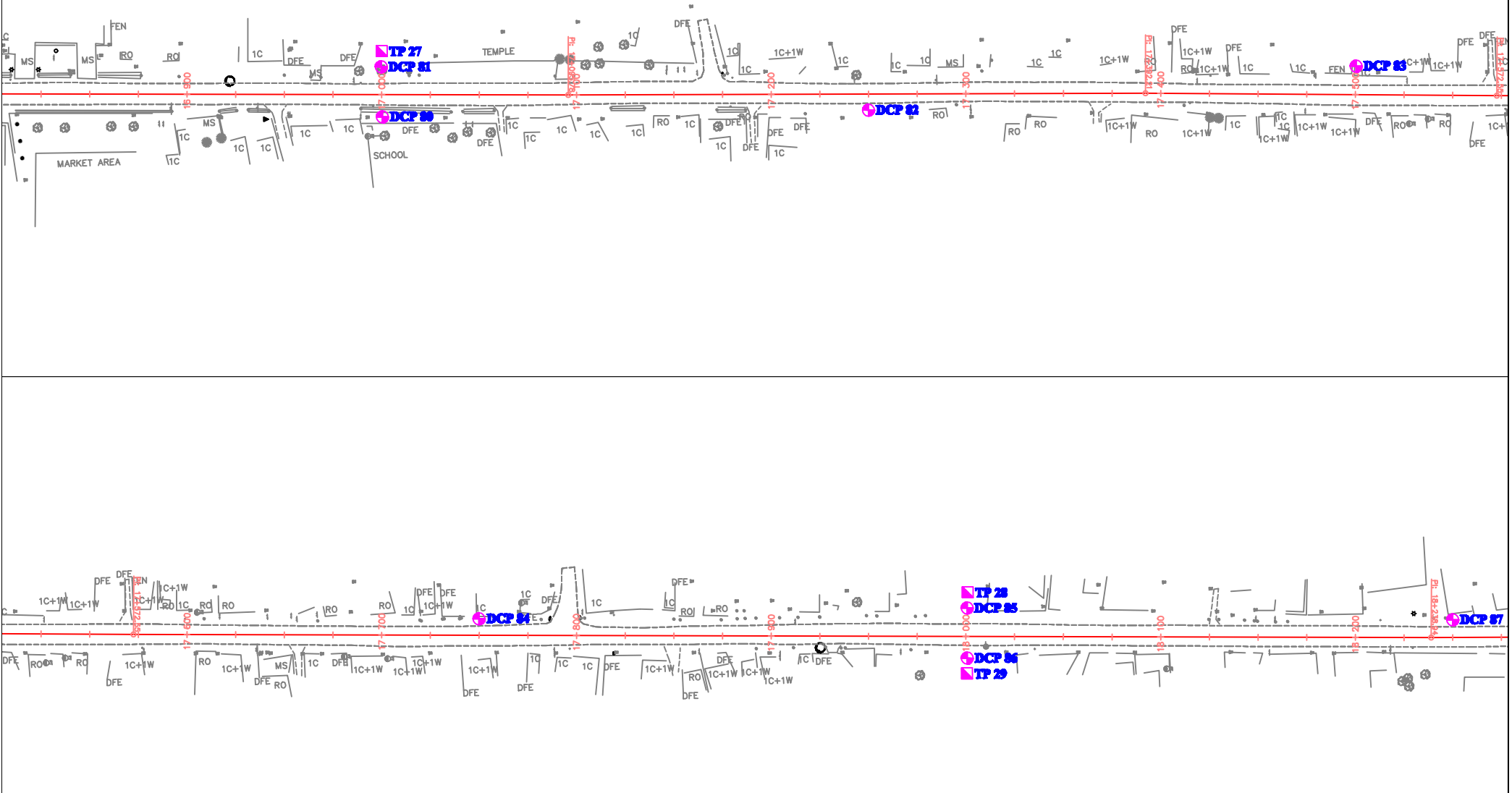
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- Legend:**
- - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.12 Location Plan of Test Pit Log and DCP Test**

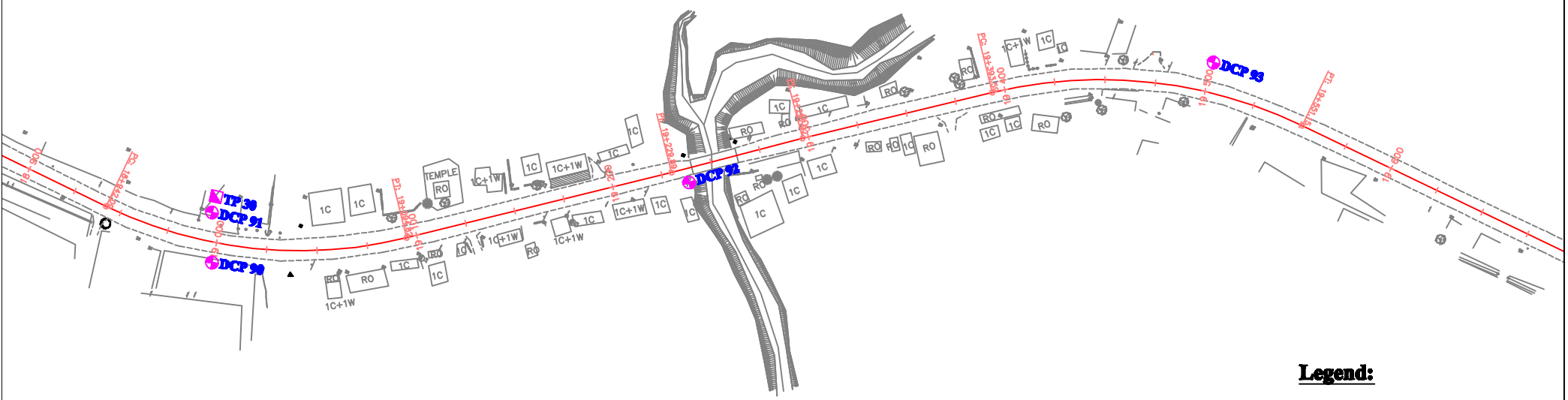
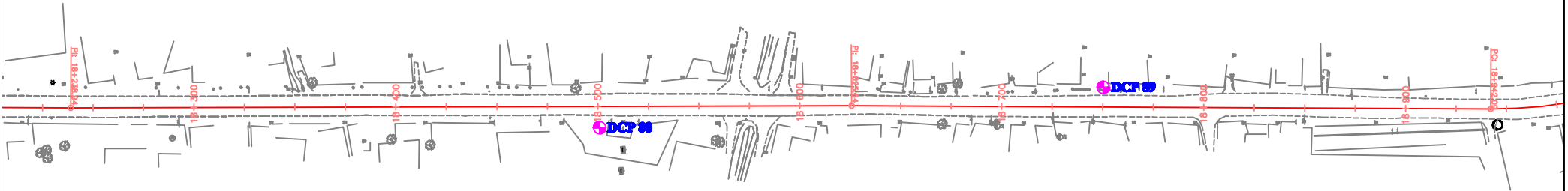
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- Legend:**
- - Test Pit Log
  - - DCP Test

**Figure 2.13 Location Plan of Test Pit Log and DCP Test**

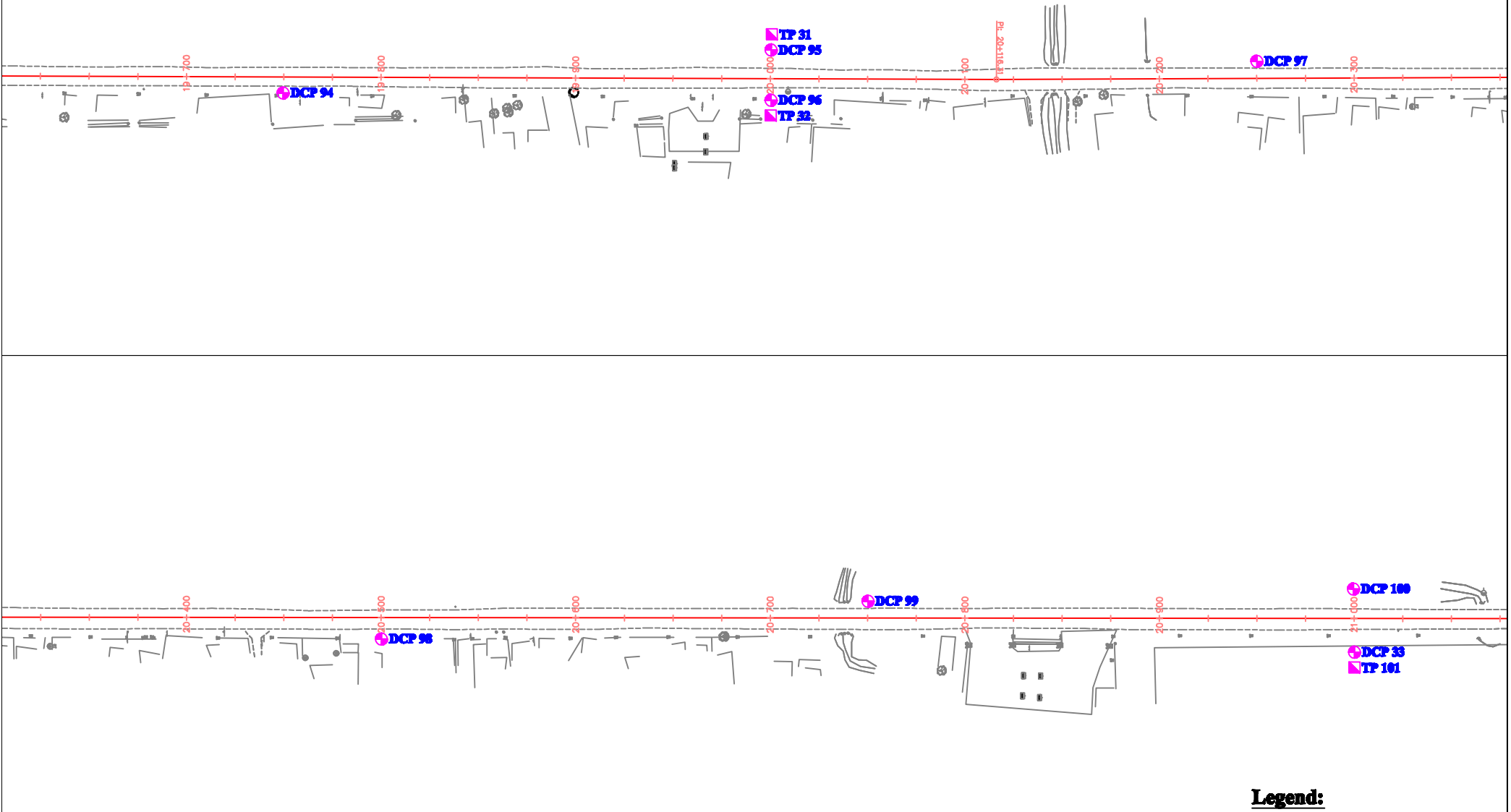
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- Legend:**
- - Test Pit Log
  - - DCP Test

**Figure 2.14 Location Plan of Test Pit Log and DCP Test**

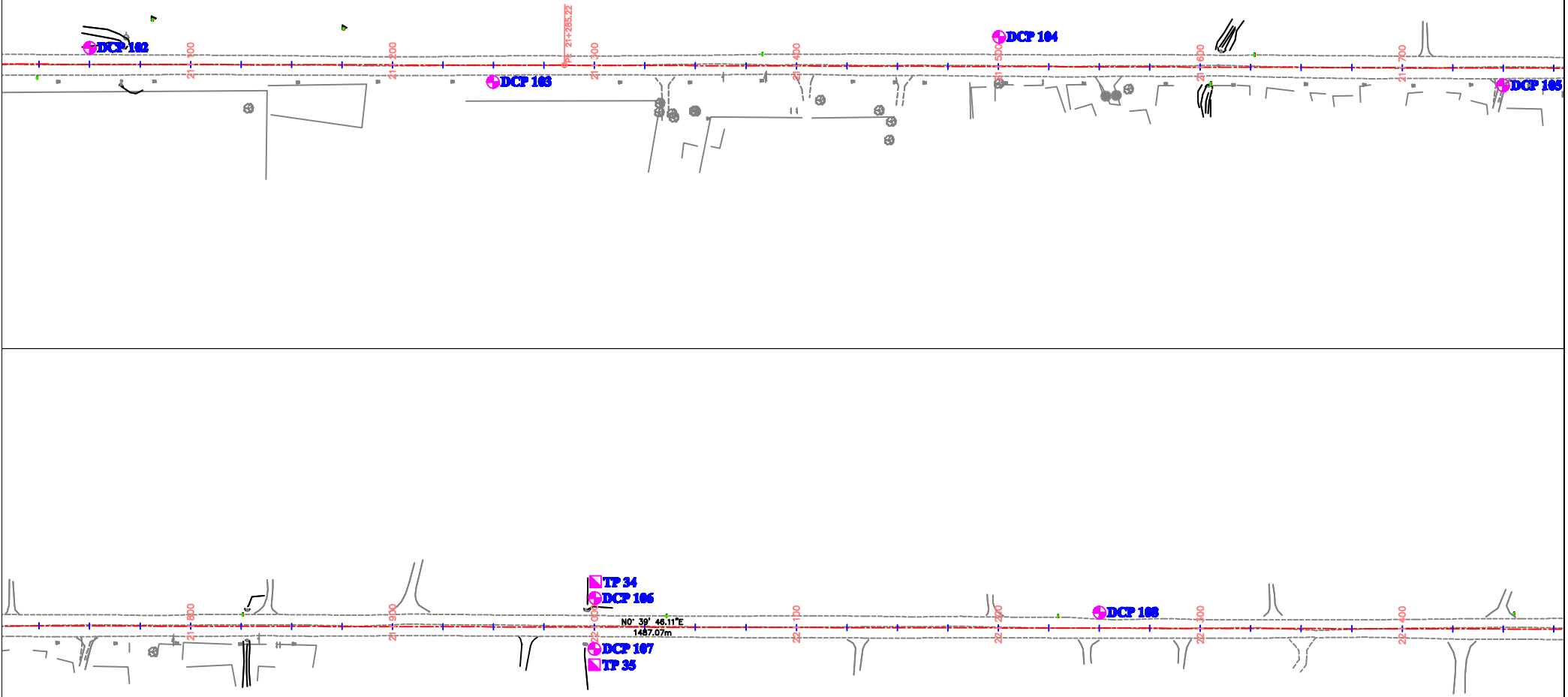
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- Legend:**
- - Test Pit Log
  - - DCP Test

**Figure 2.15 Location Plan of Test Pit Log and DCP Test**

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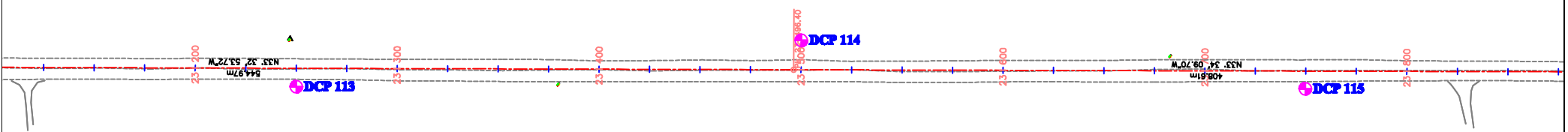
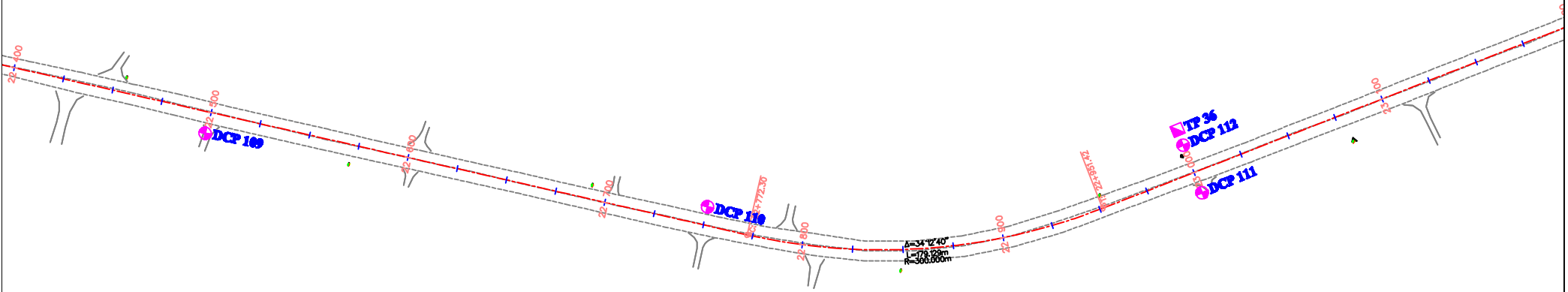


**Legend:**

- - Test Pit Log
- ⊕ - DCP Test

**Figure 2.16 Location Plan of Test Pit Log and DCP Test**

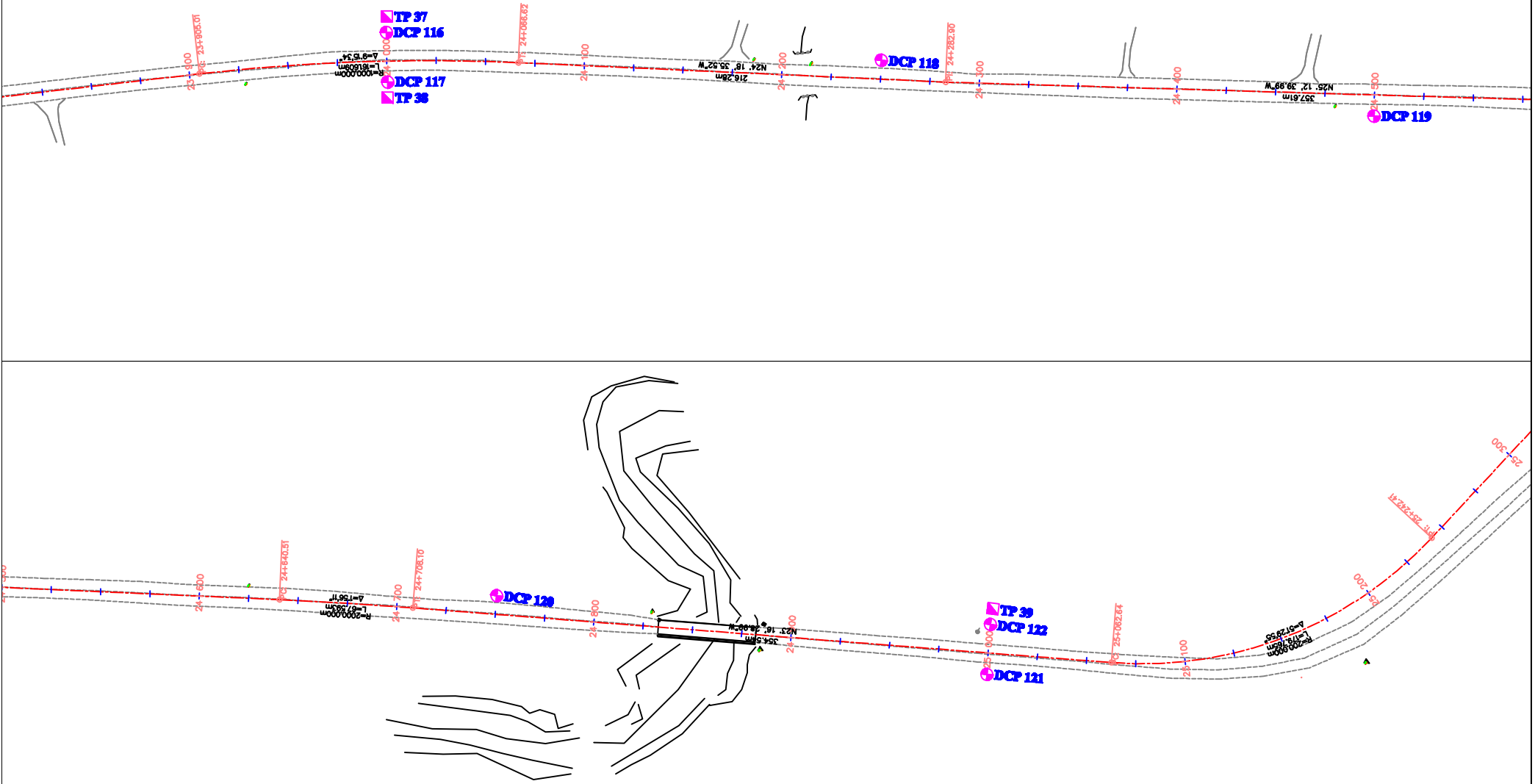
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- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.17 Location Plan of Test Pit Log and DCP Test**

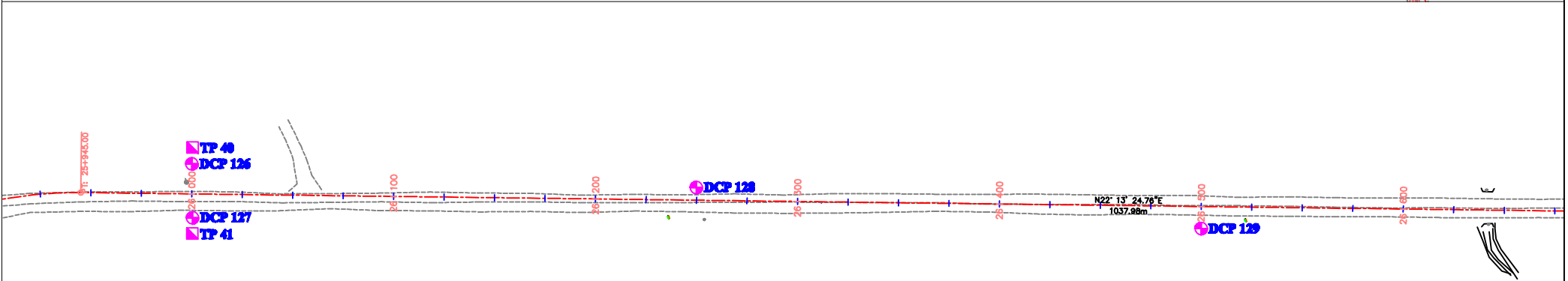
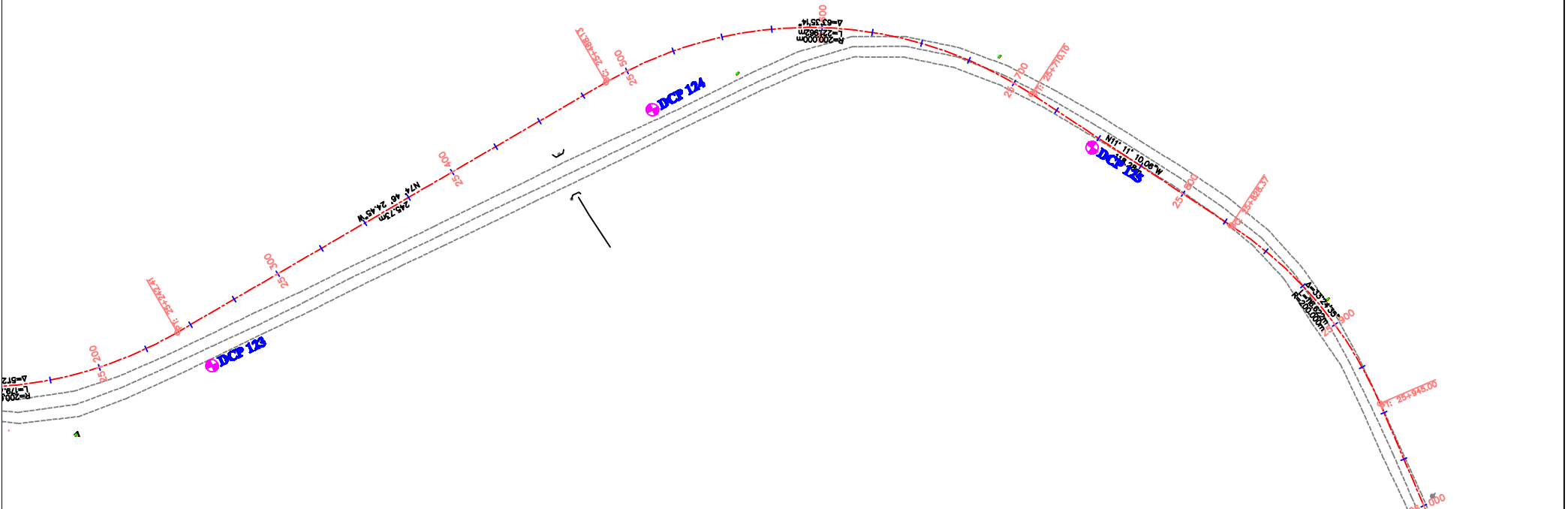
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- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.18 Location Plan of Test Pit Log and DCP Test**

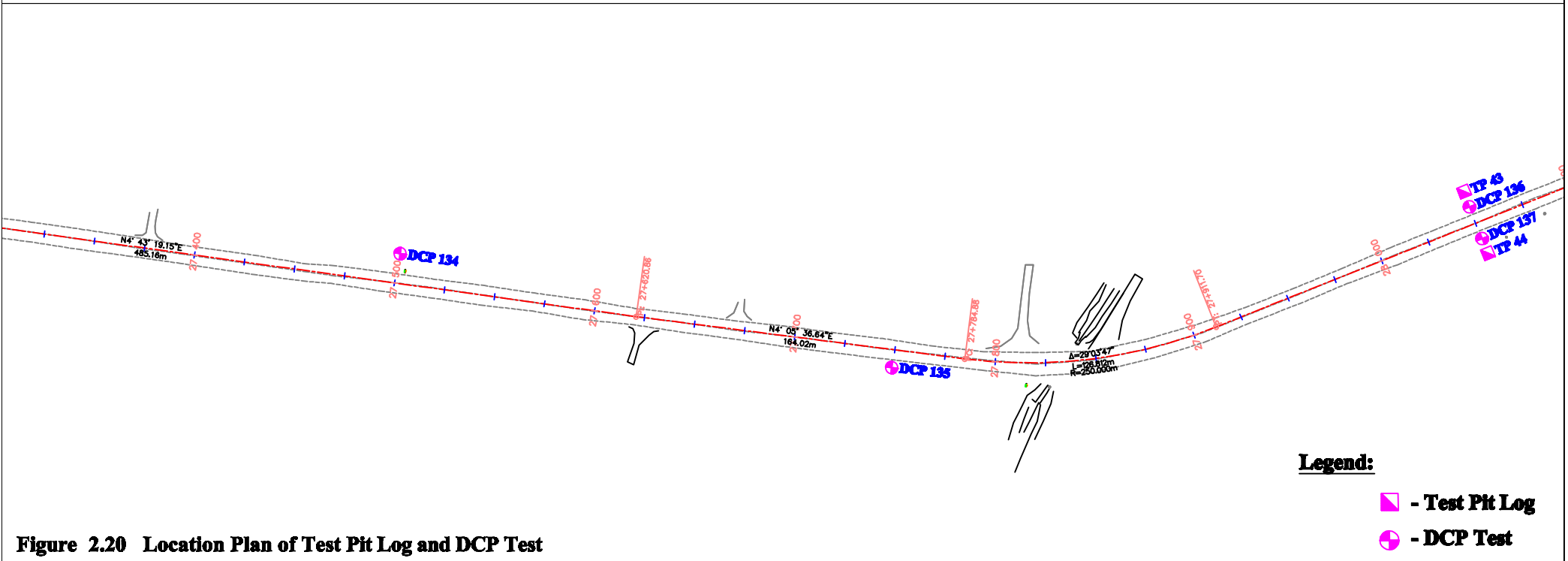
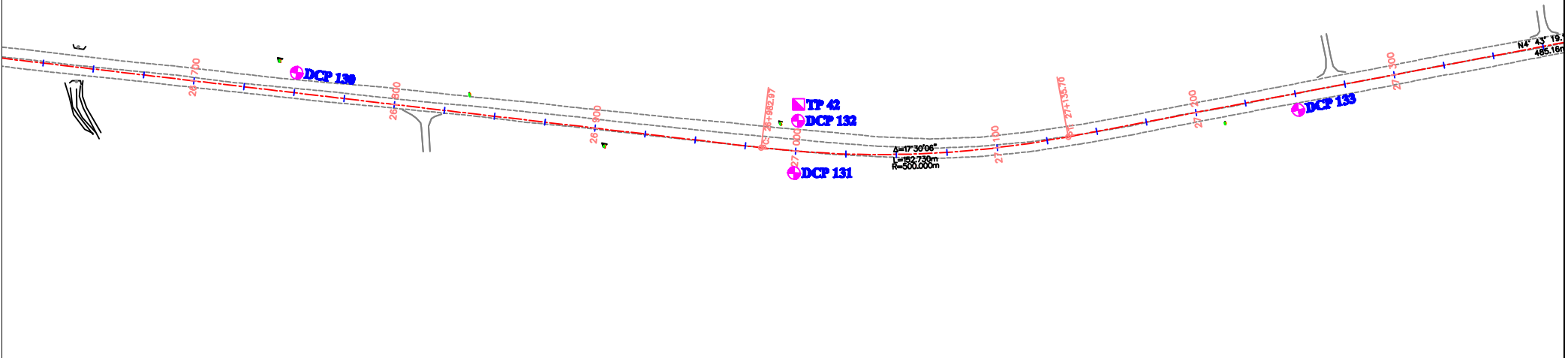
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- Legend:**
- - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.19 Location Plan of Test Pit Log and DCP Test**

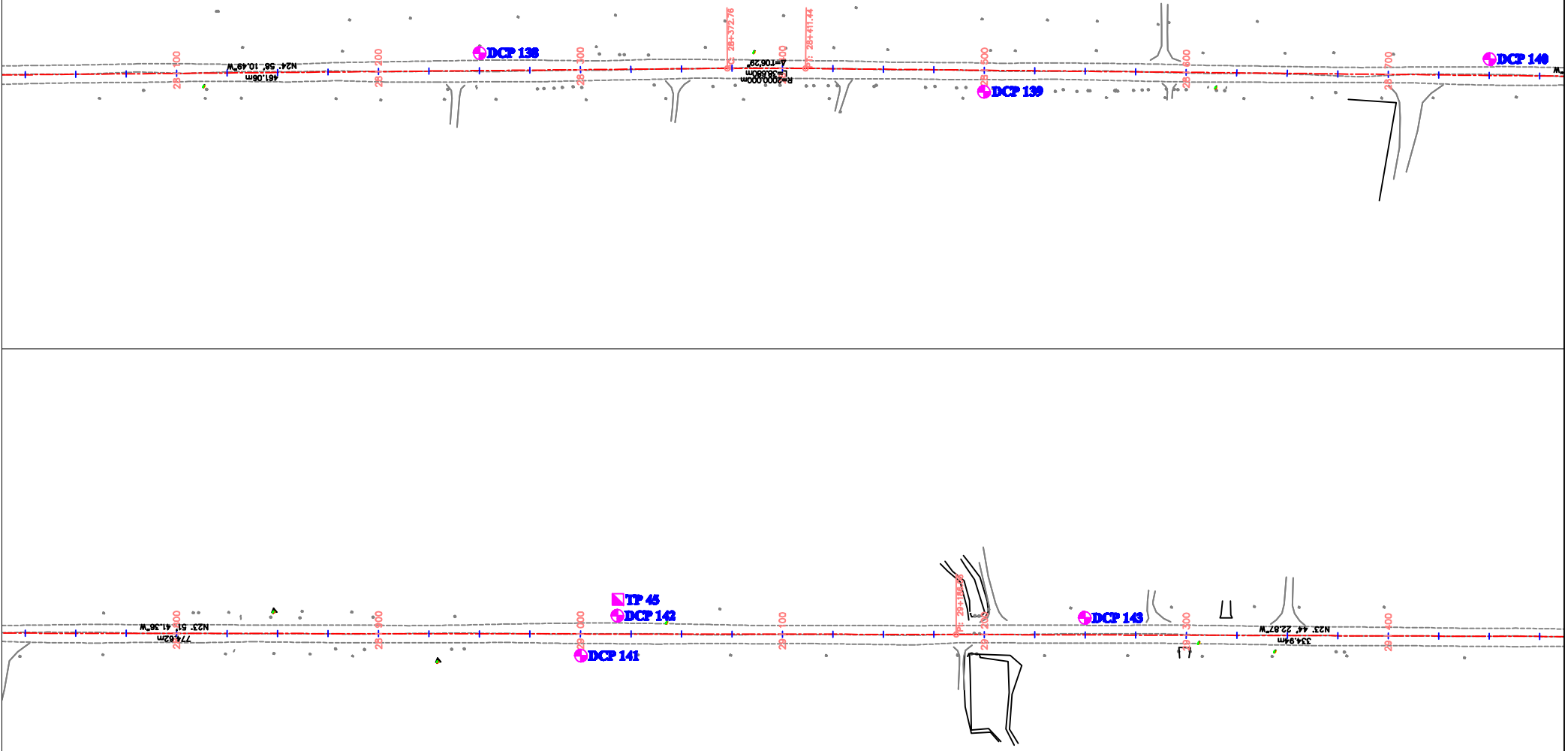
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- - Test Pit Log
  - - DCP Test

**Figure 2.20 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**

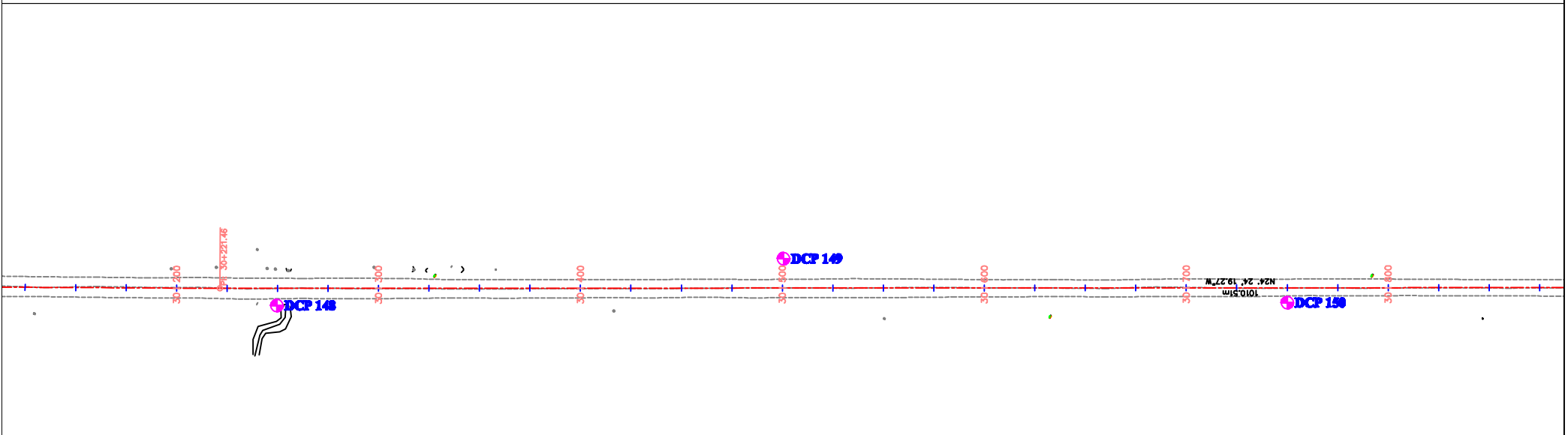
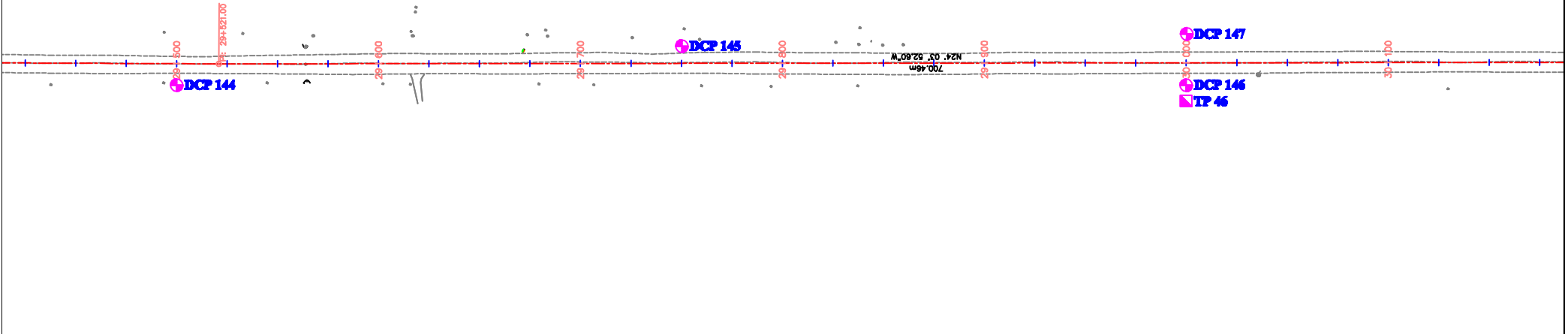


**Legend:**

- ▣ - Test Pit Log
- ⊕ - DCP Test

**Figure 2.21 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**

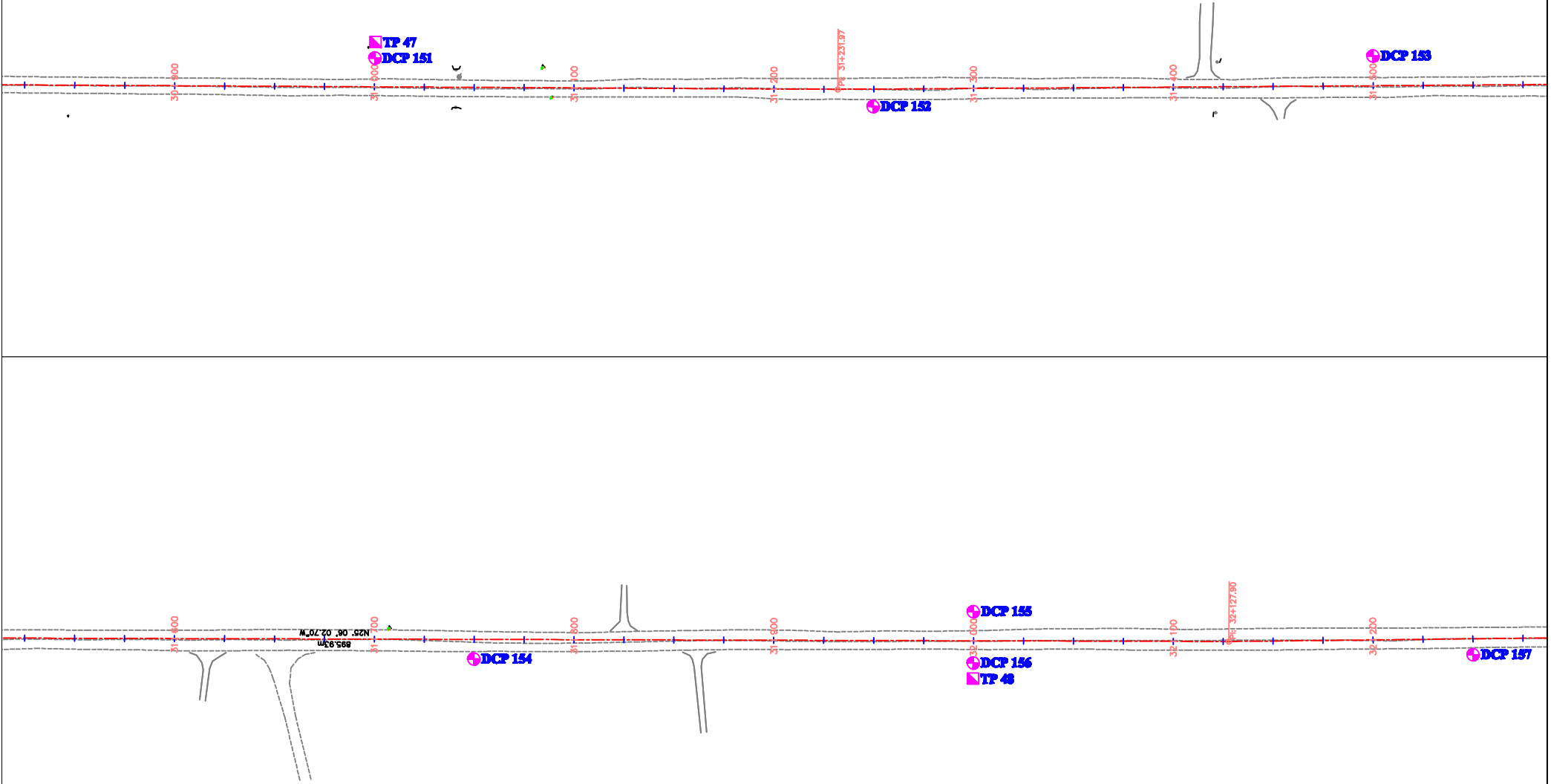


**Legend:**

- - Test Pit Log
- ⊕ - DCP Test

**Figure 2.22 Location Plan of Test Pit Log and DCP Test**

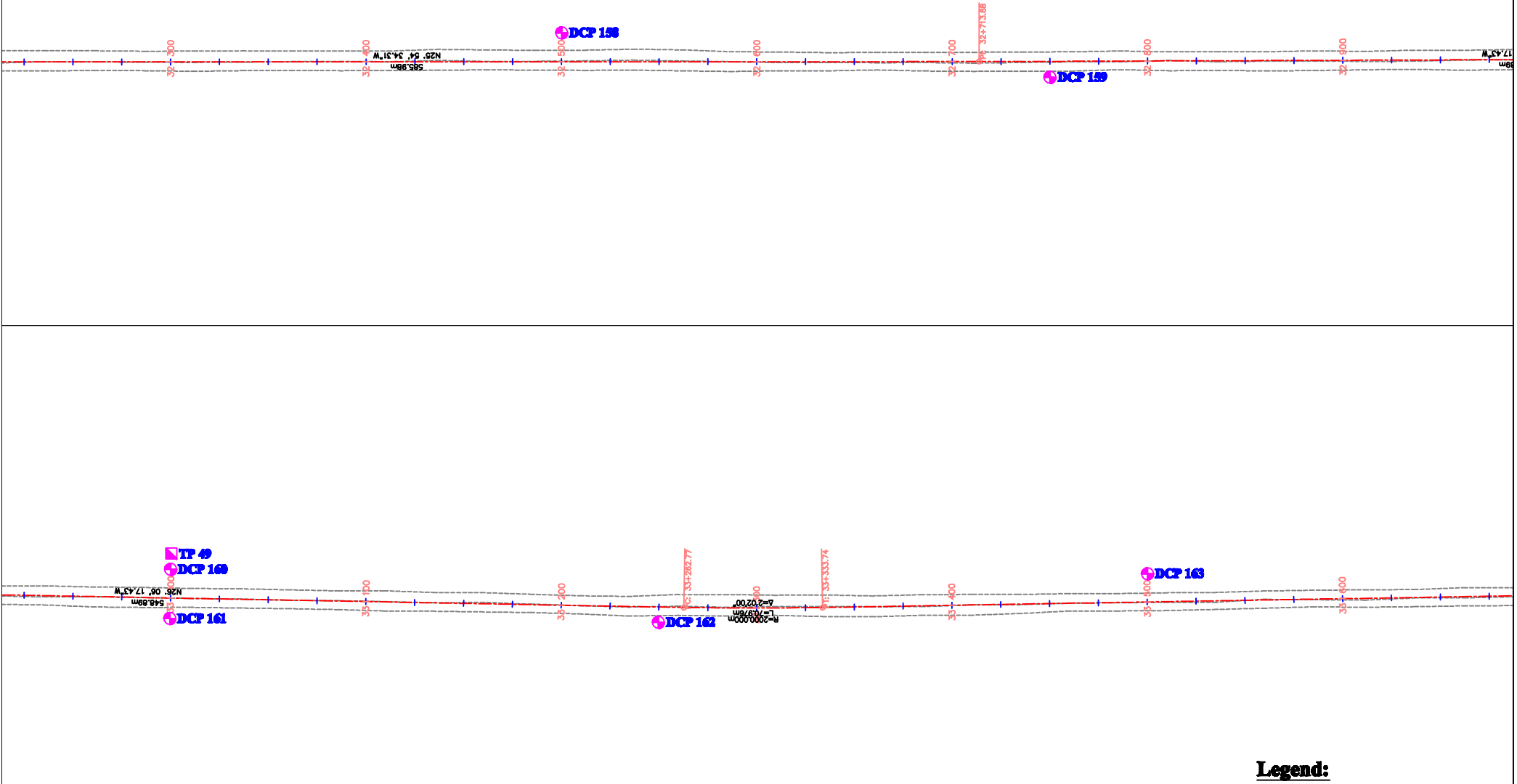
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.23 Location Plan of Test Pit Log and DCP Test**

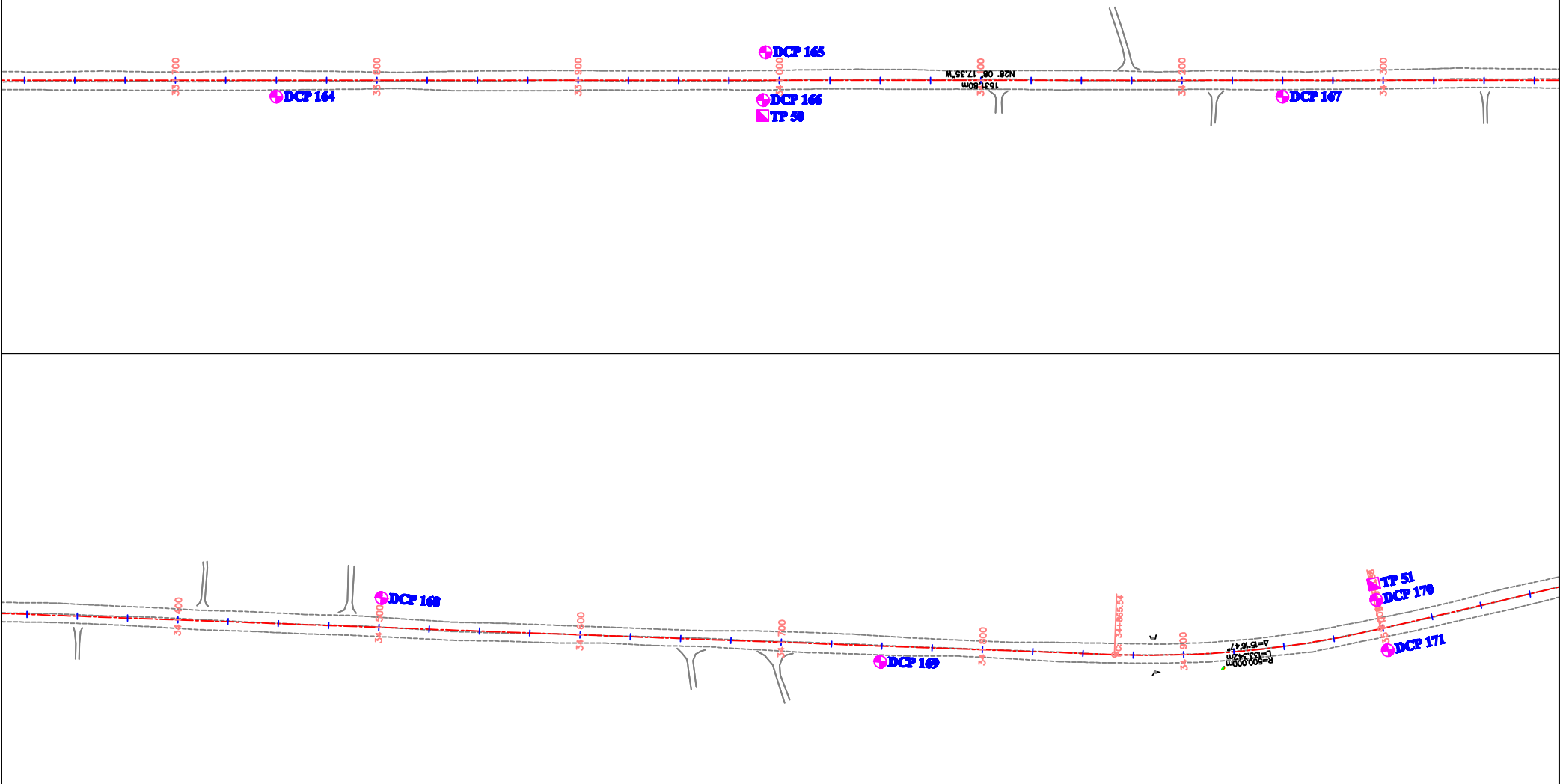
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.24 Location Plan of Test Pit Log and DCP Test**

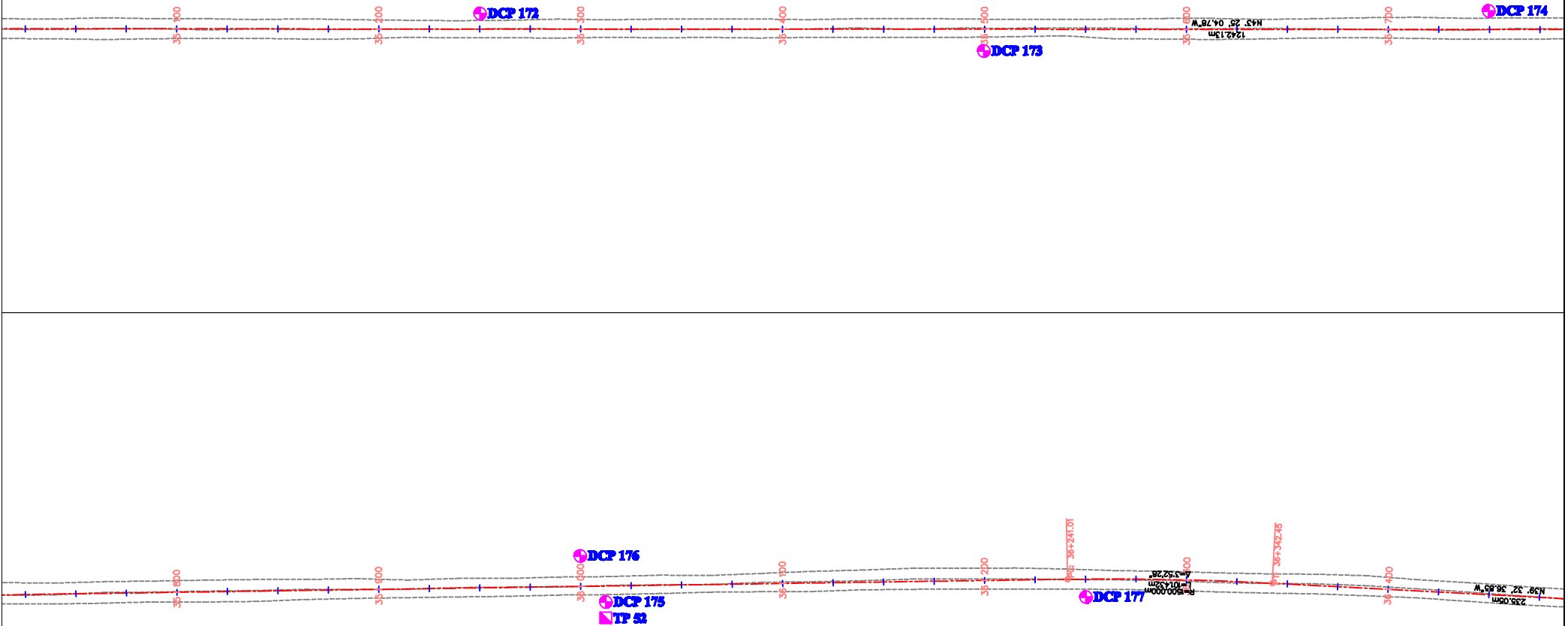
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.25 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**

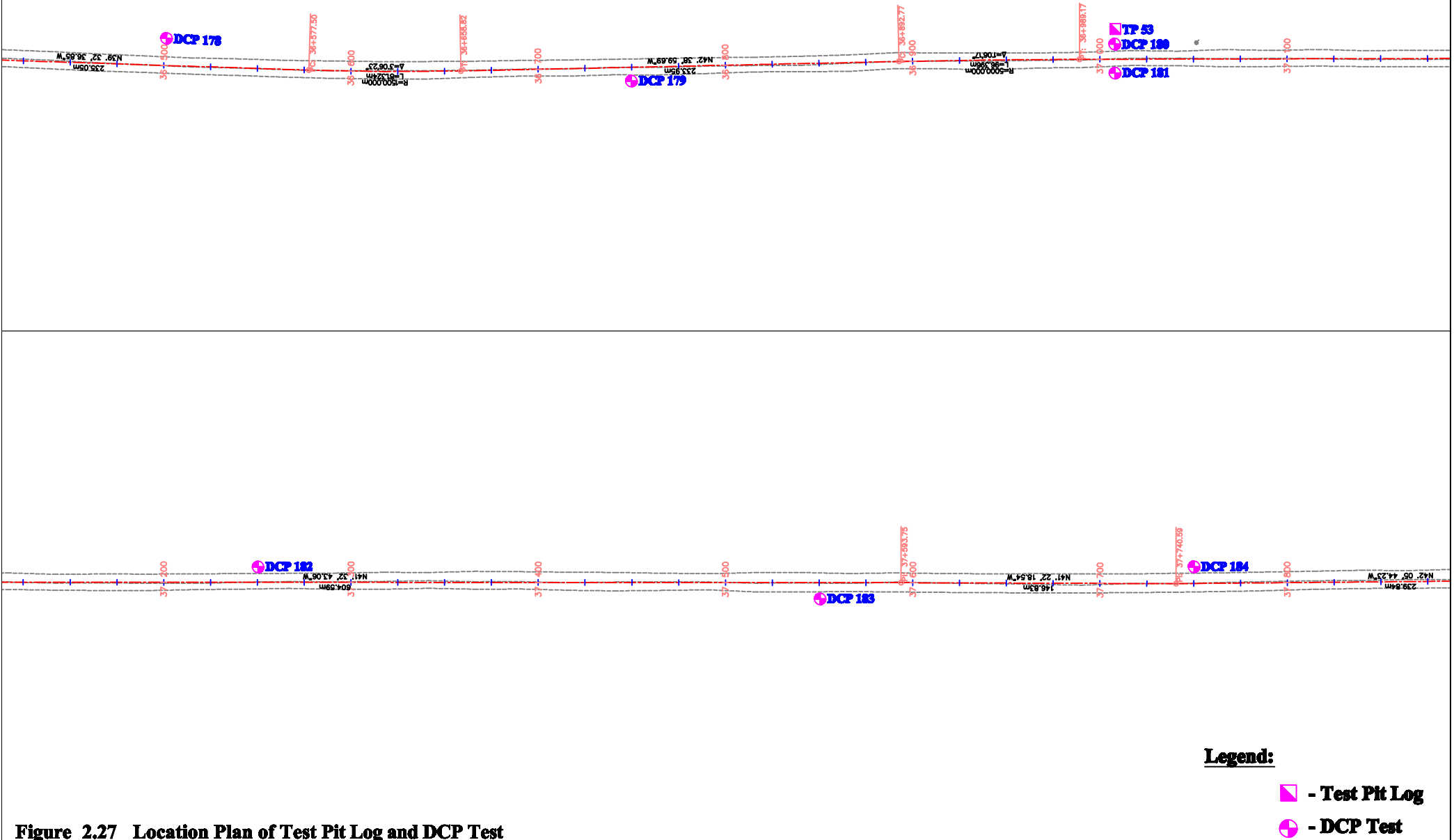


**Legend:**

- - Test Pit Log
- - DCP Test

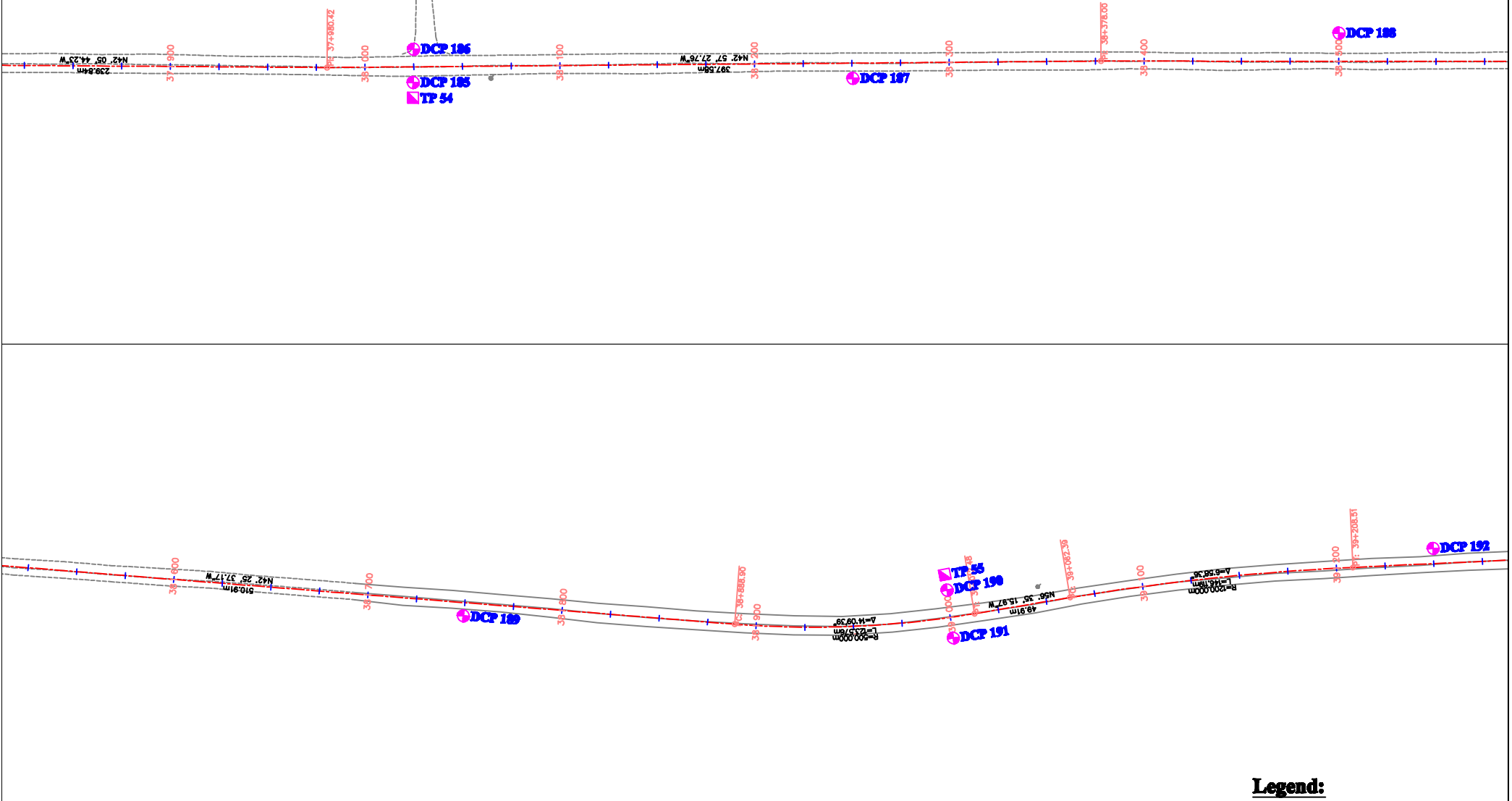
**Figure 2.26 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



**Figure 2.27 Location Plan of Test Pit Log and DCP Test**

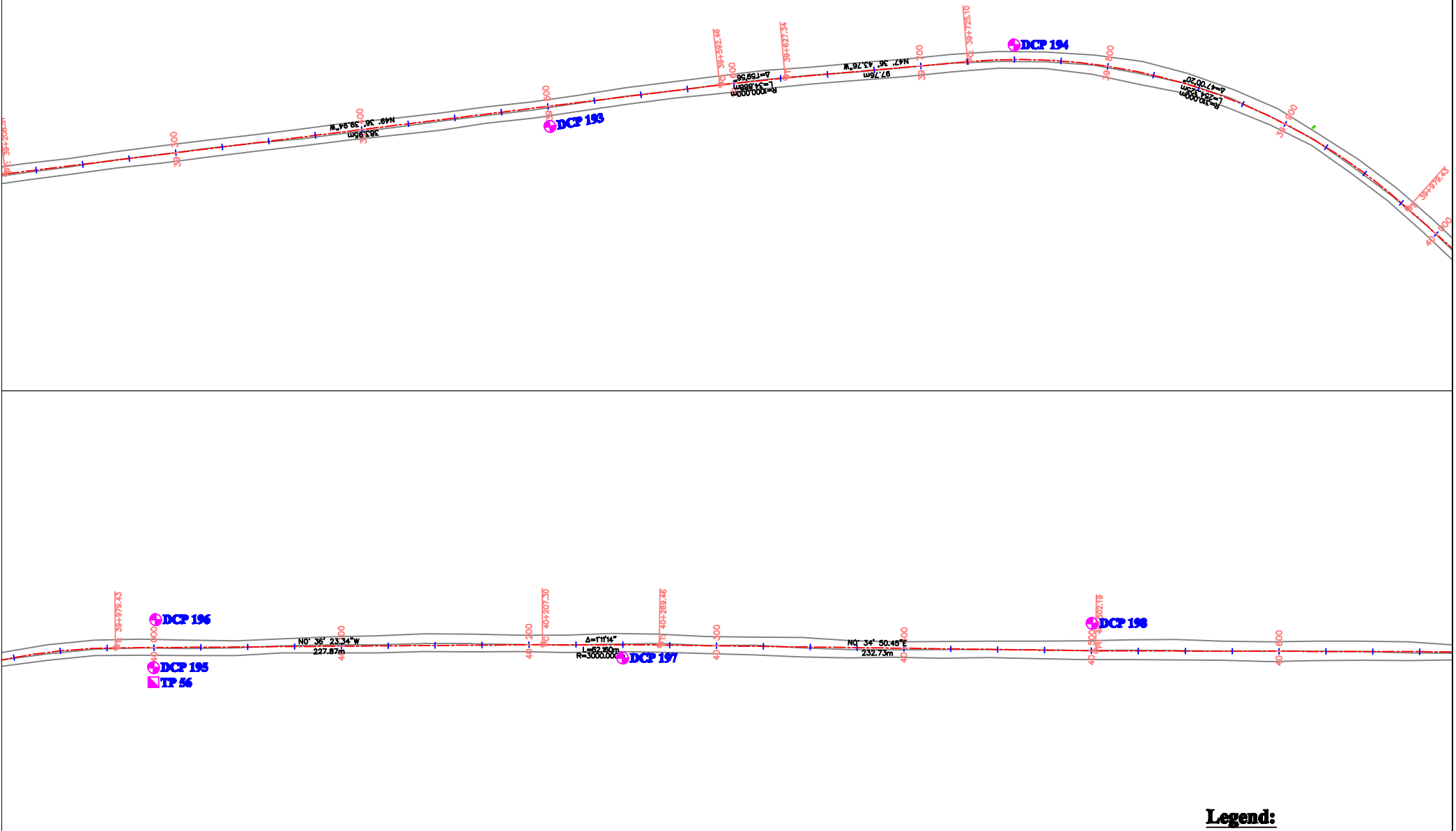
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ◻ - Test Pit Log
  - - DCP Test

**Figure 2.28 Location Plan of Test Pit Log and DCP Test**

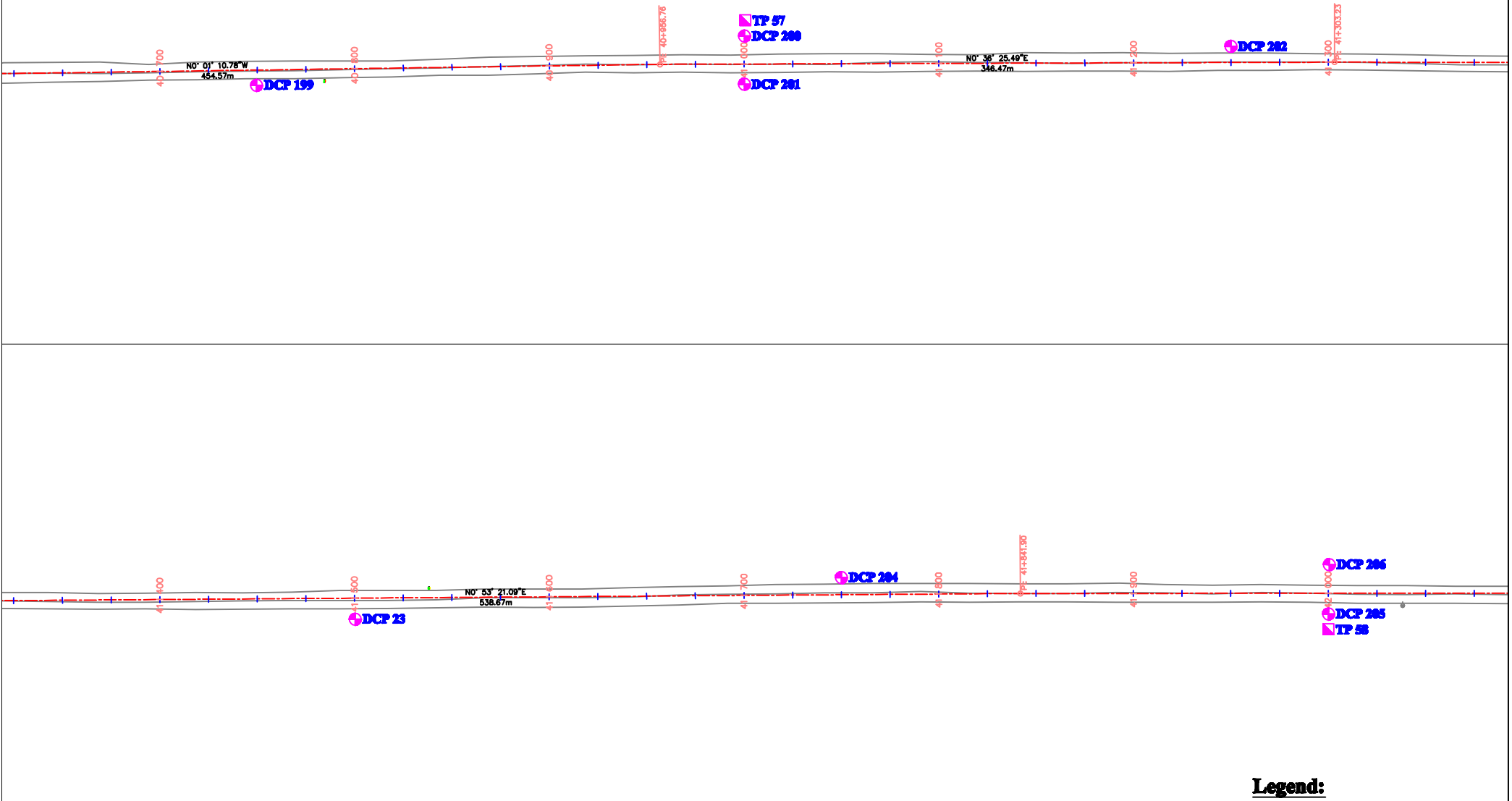
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.29 Location Plan of Test Pit Log and DCP Test**

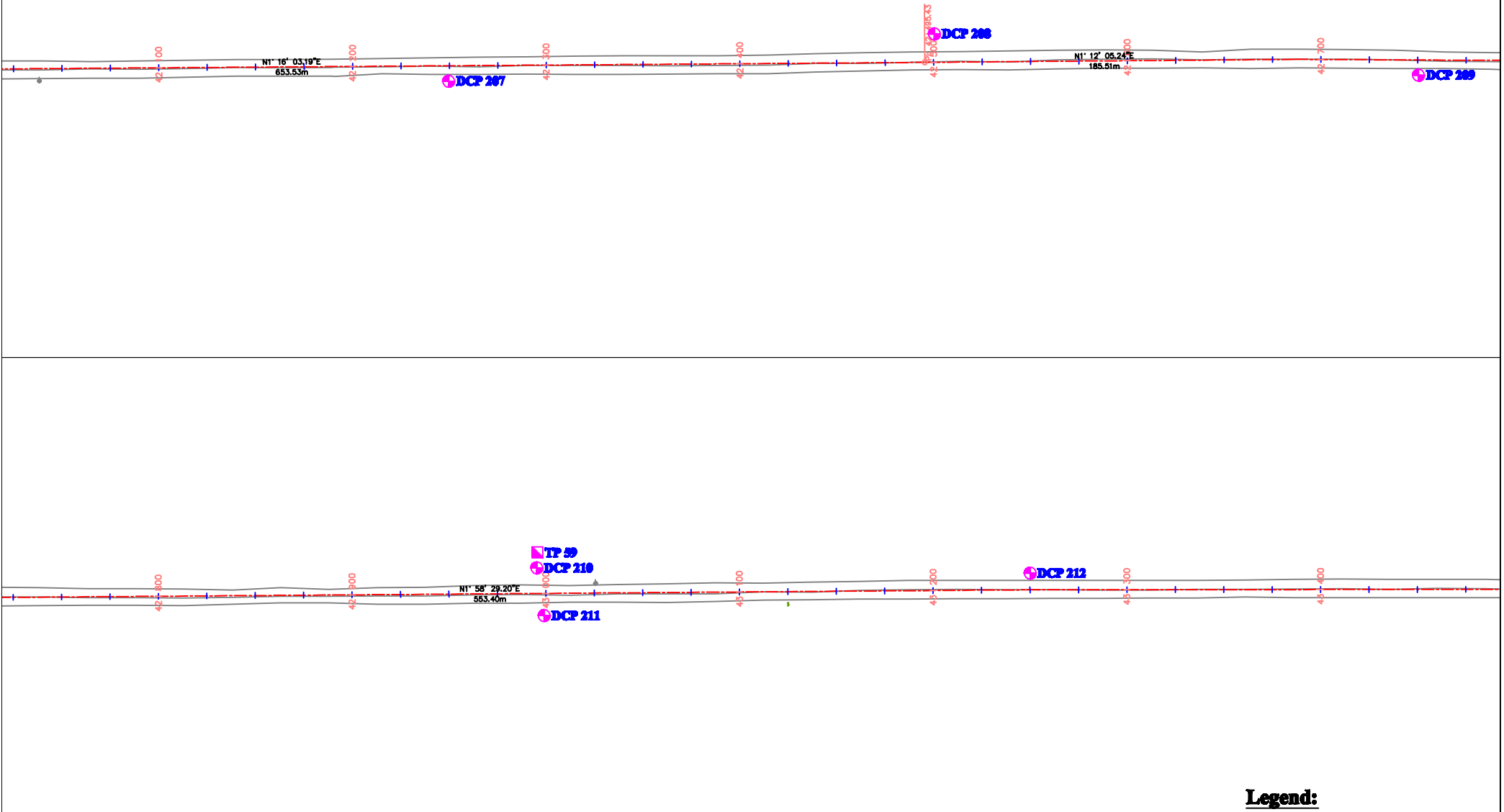
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.30** Location Plan of Test Pit Log and DCP Test

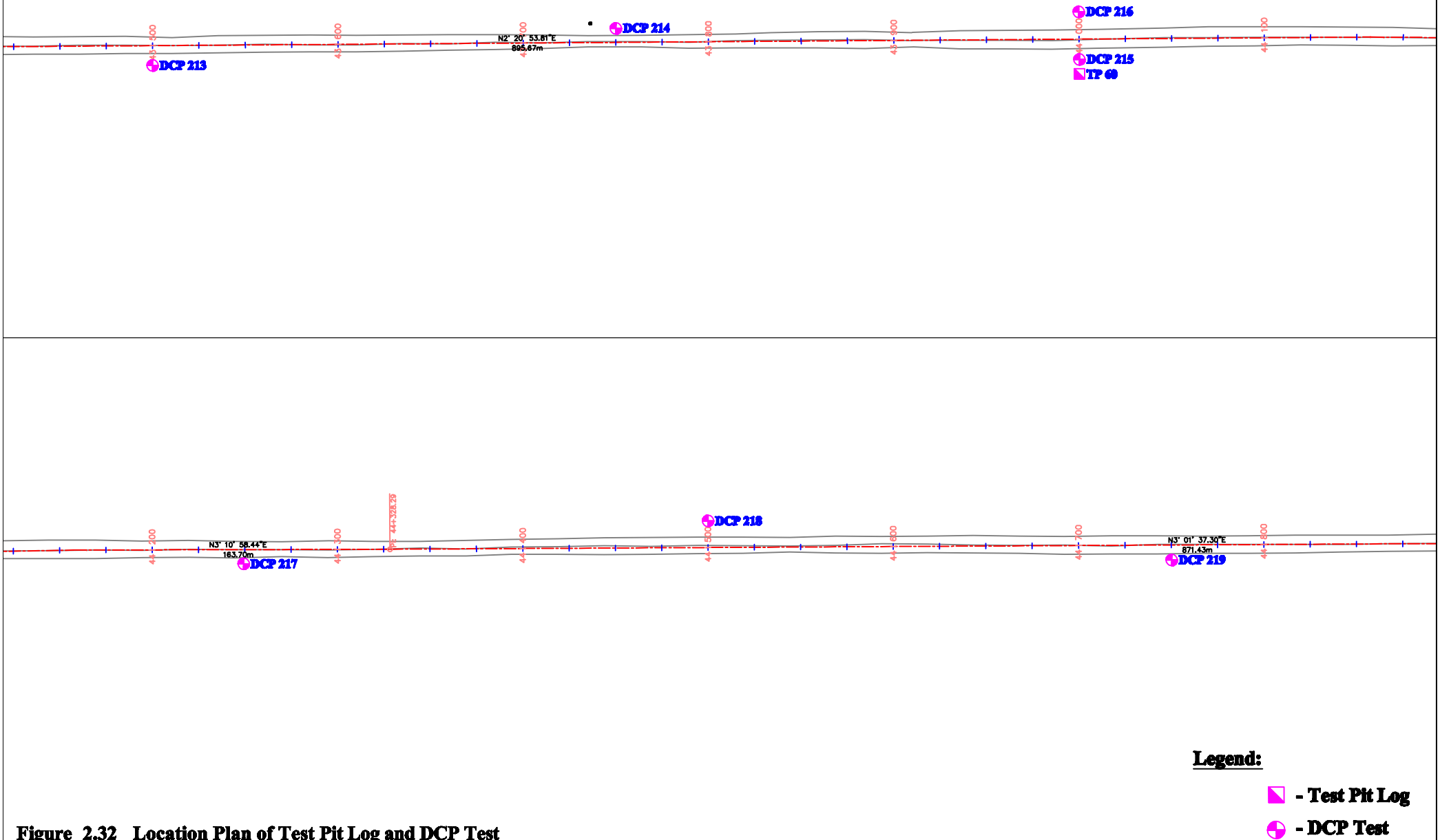
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

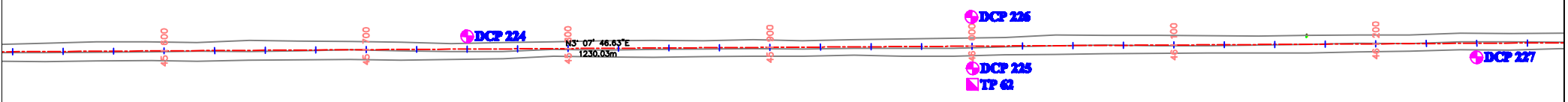
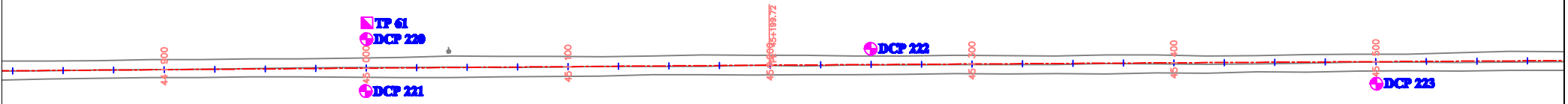
**Figure 2.31 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



**Figure 2.32 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**

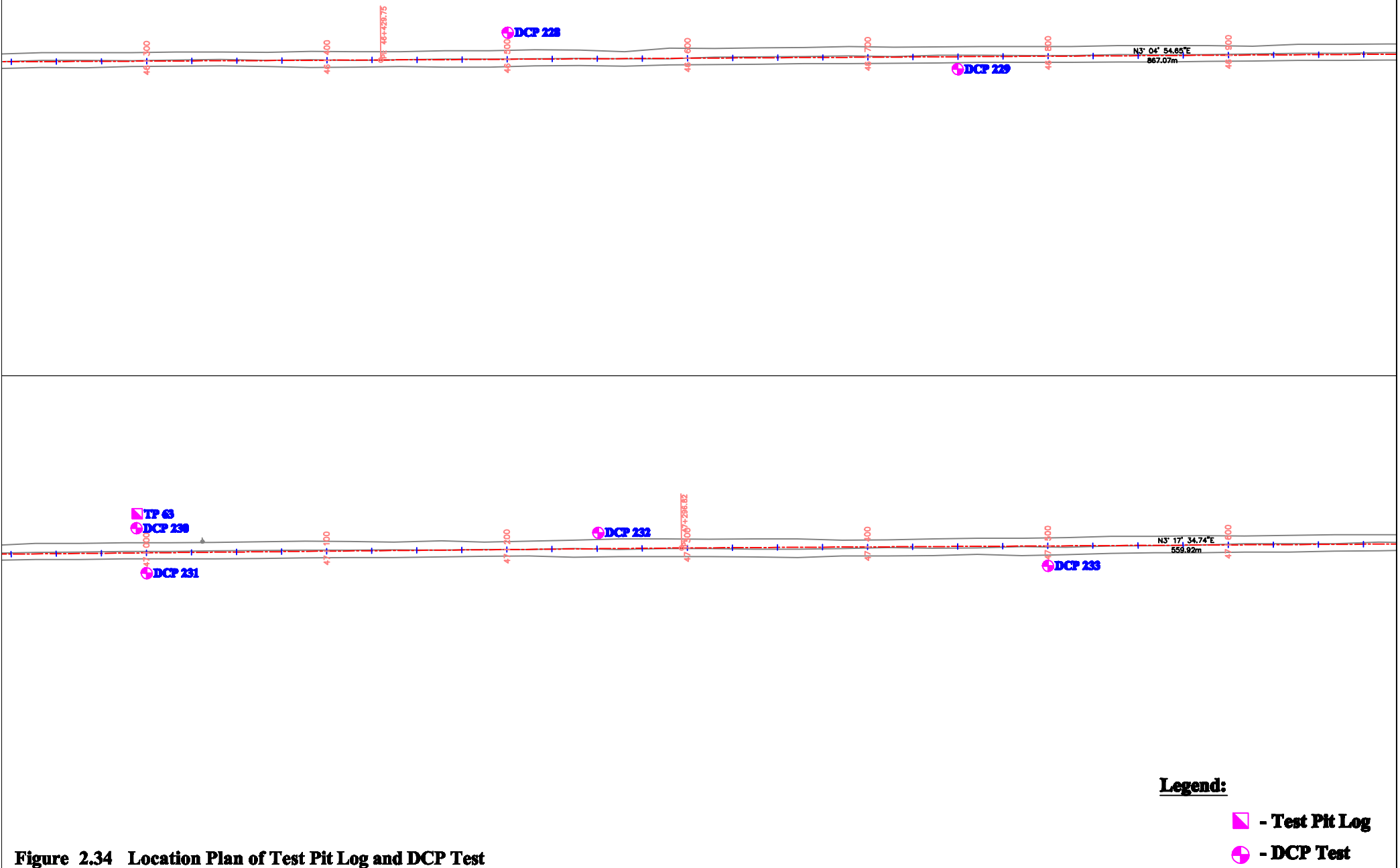


**Legend:**

- ▣ - Test Pit Log
- ⊕ - DCP Test

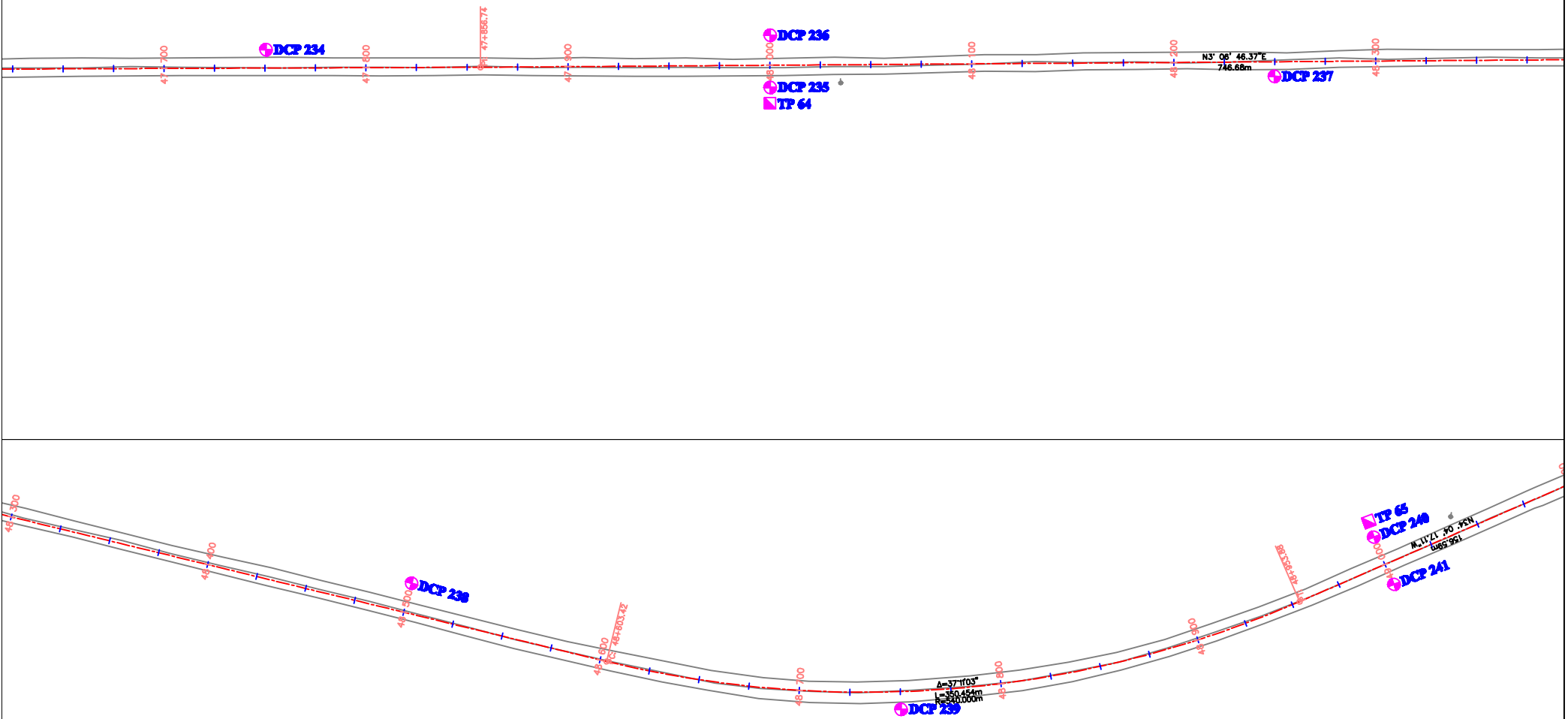
**Figure 2.33 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



**Figure 2.34 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**

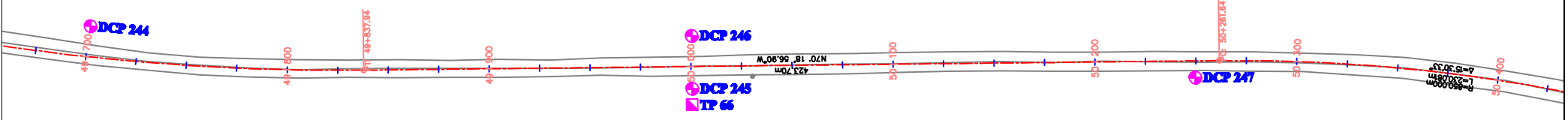
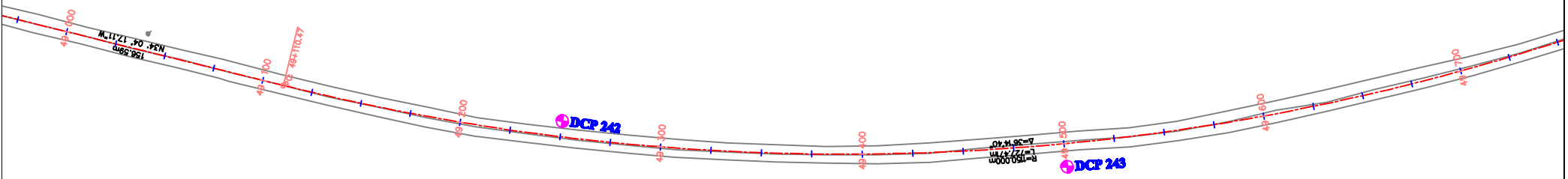


**Legend:**

- ▣ - Test Pit Log
- ⊕ - DCP Test

**Figure 2.35 Location Plan of Test Pit Log and DCP Test**

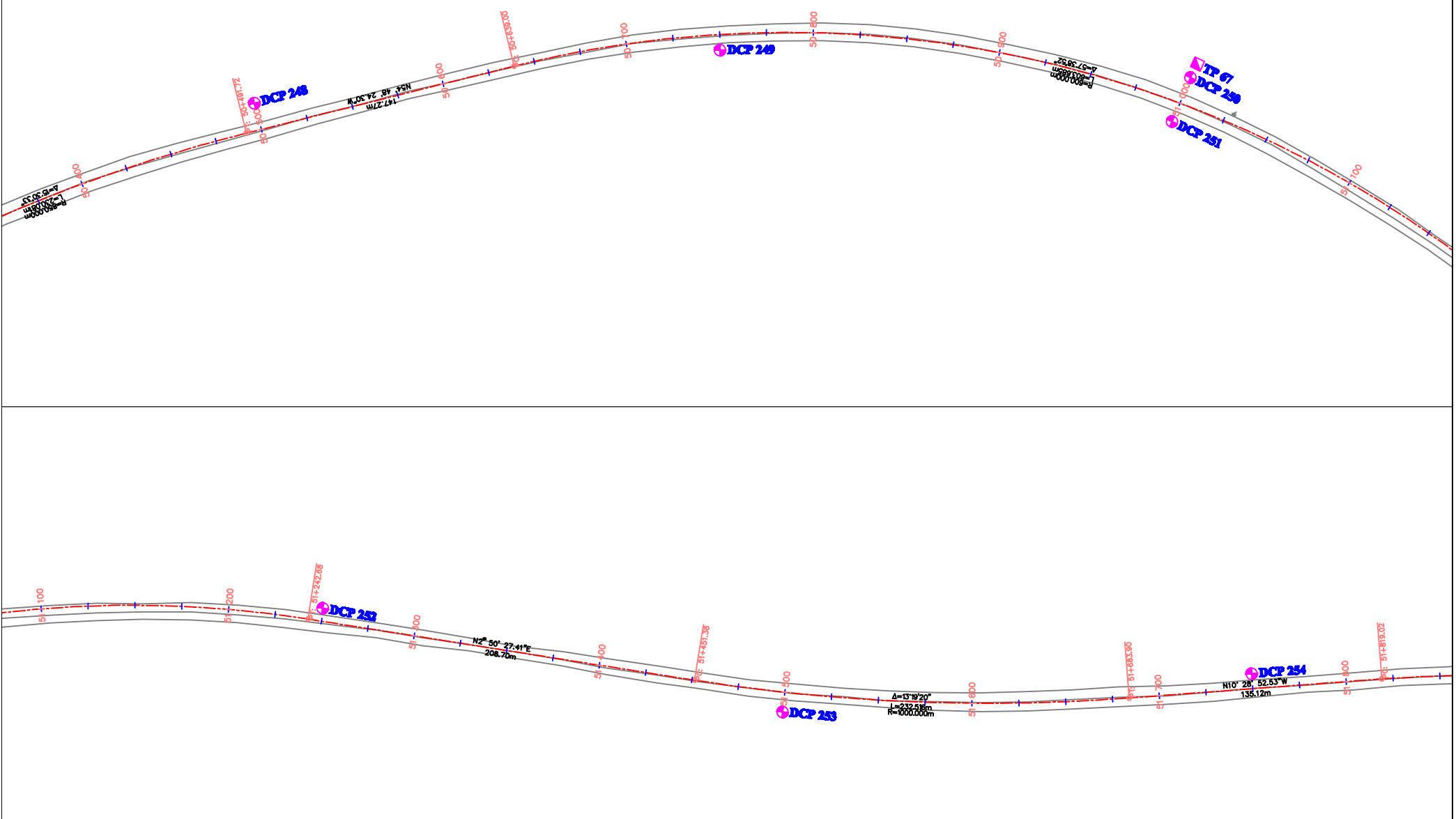
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.36 Location Plan of Test Pit Log and DCP Test**

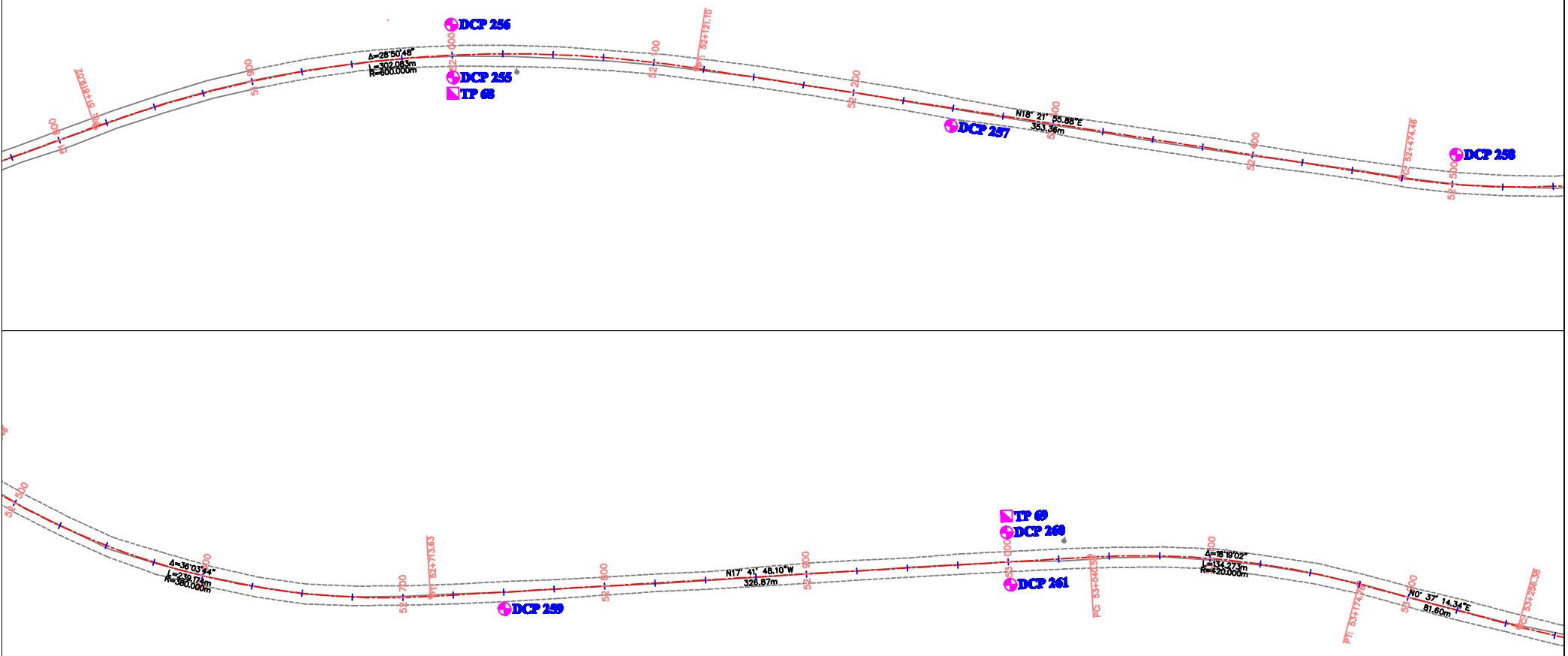
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.37 Location Plan of Test Pit Log and DCP Test**

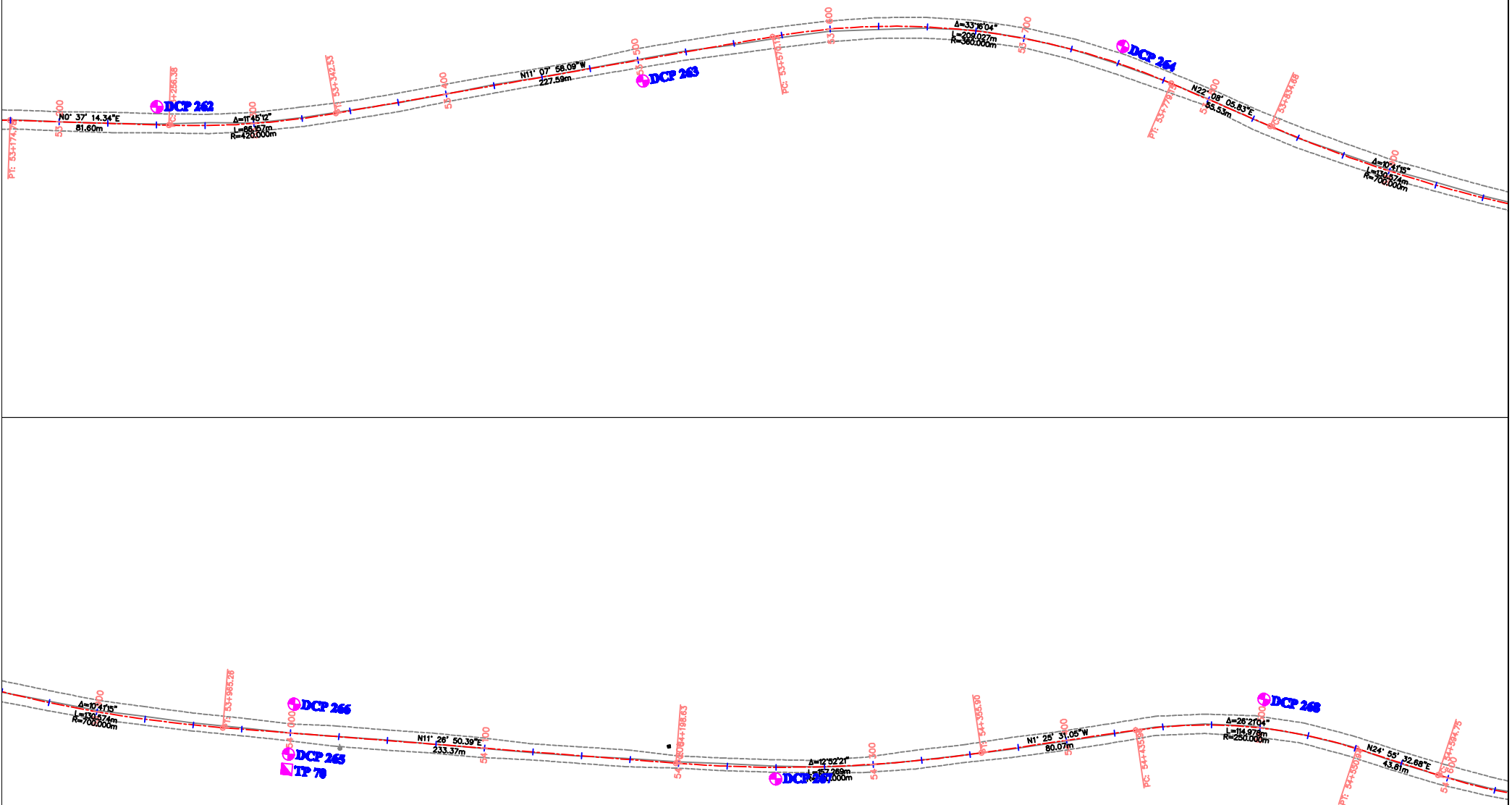
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.38 Location Plan of Test Pit Log and DCP Test**

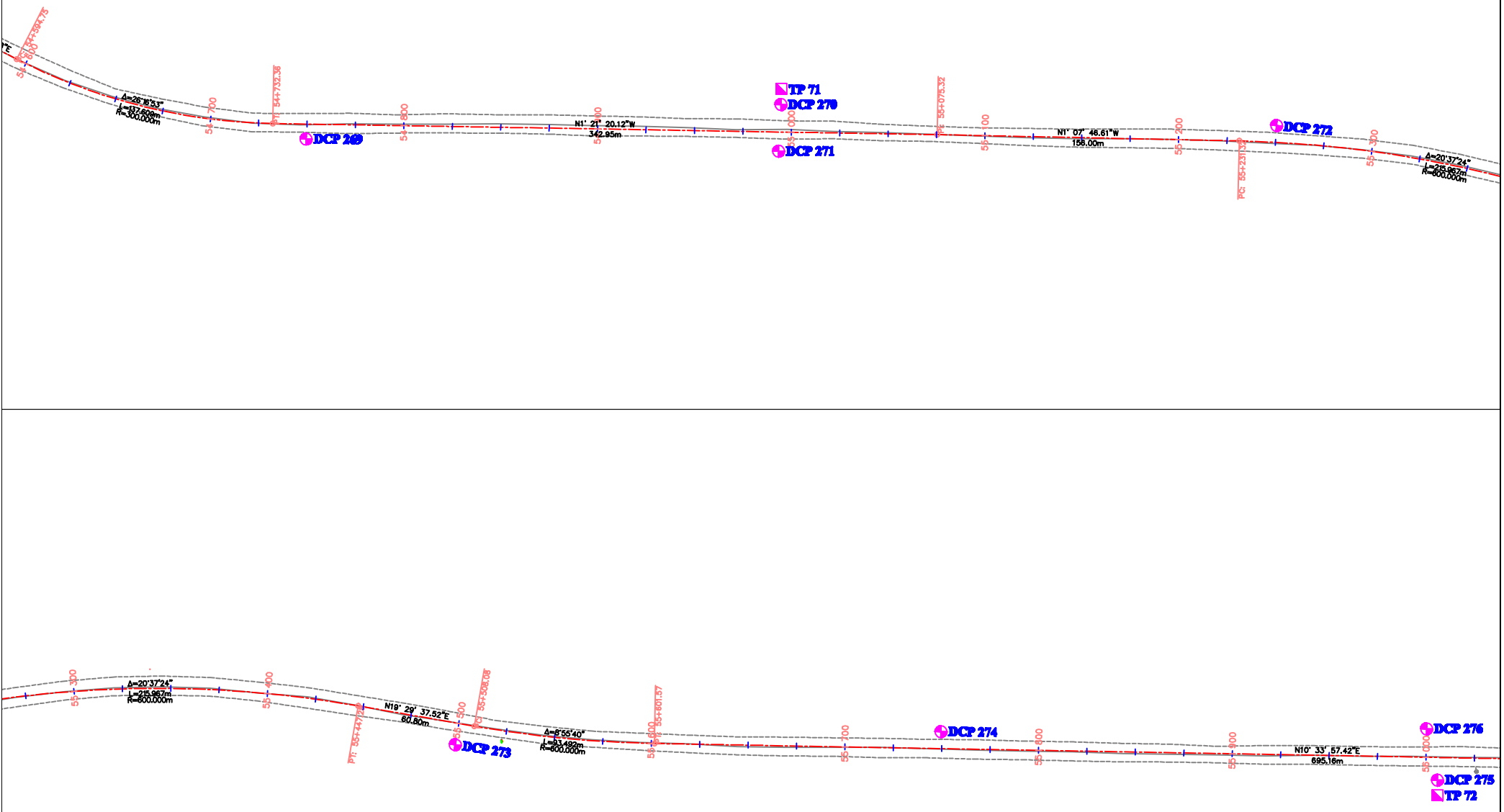
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ◻ - Test Pit Log
  - - DCP Test

**Figure 2.39** Location Plan of Test Pit Log and DCP Test

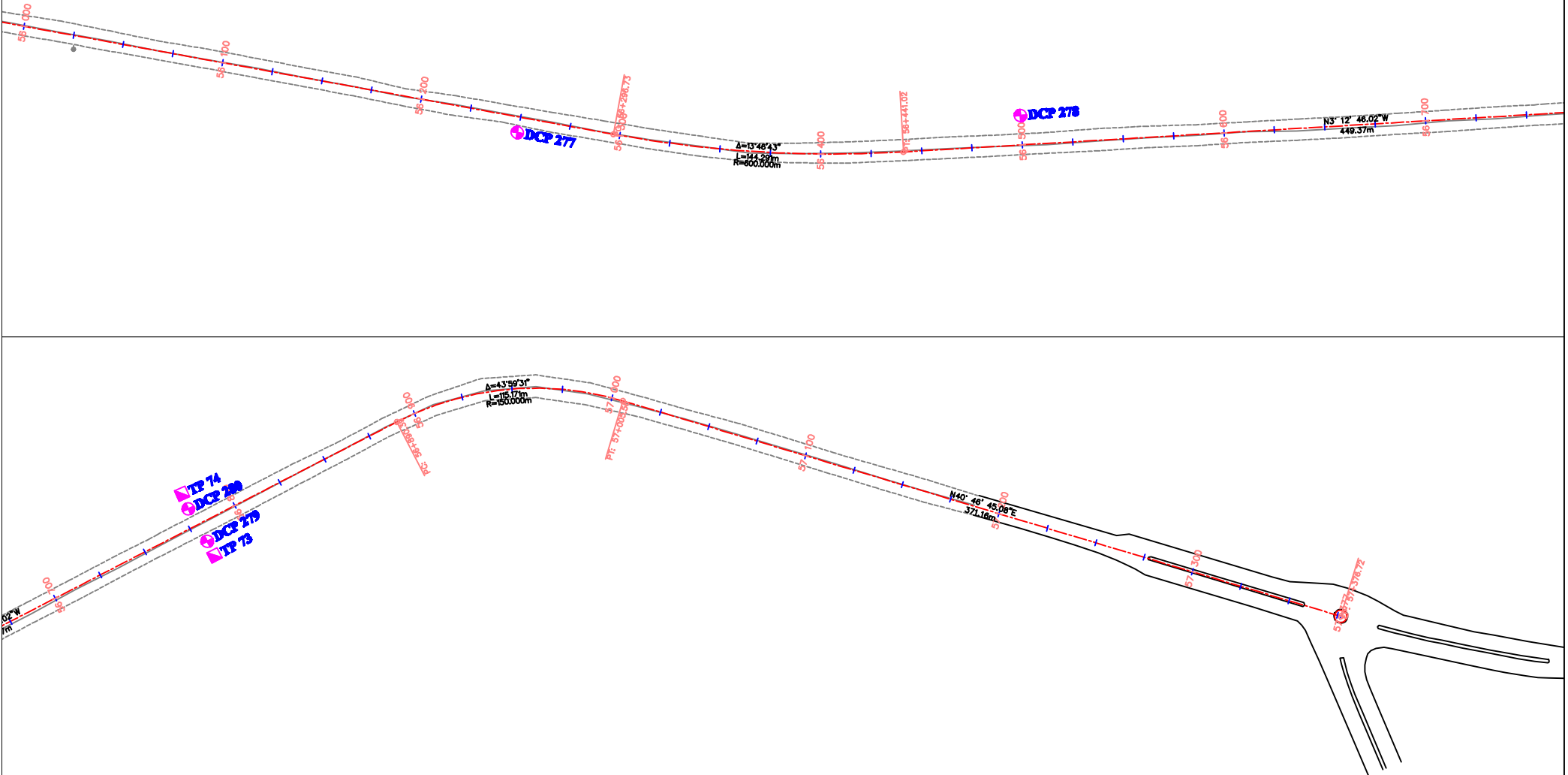
**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

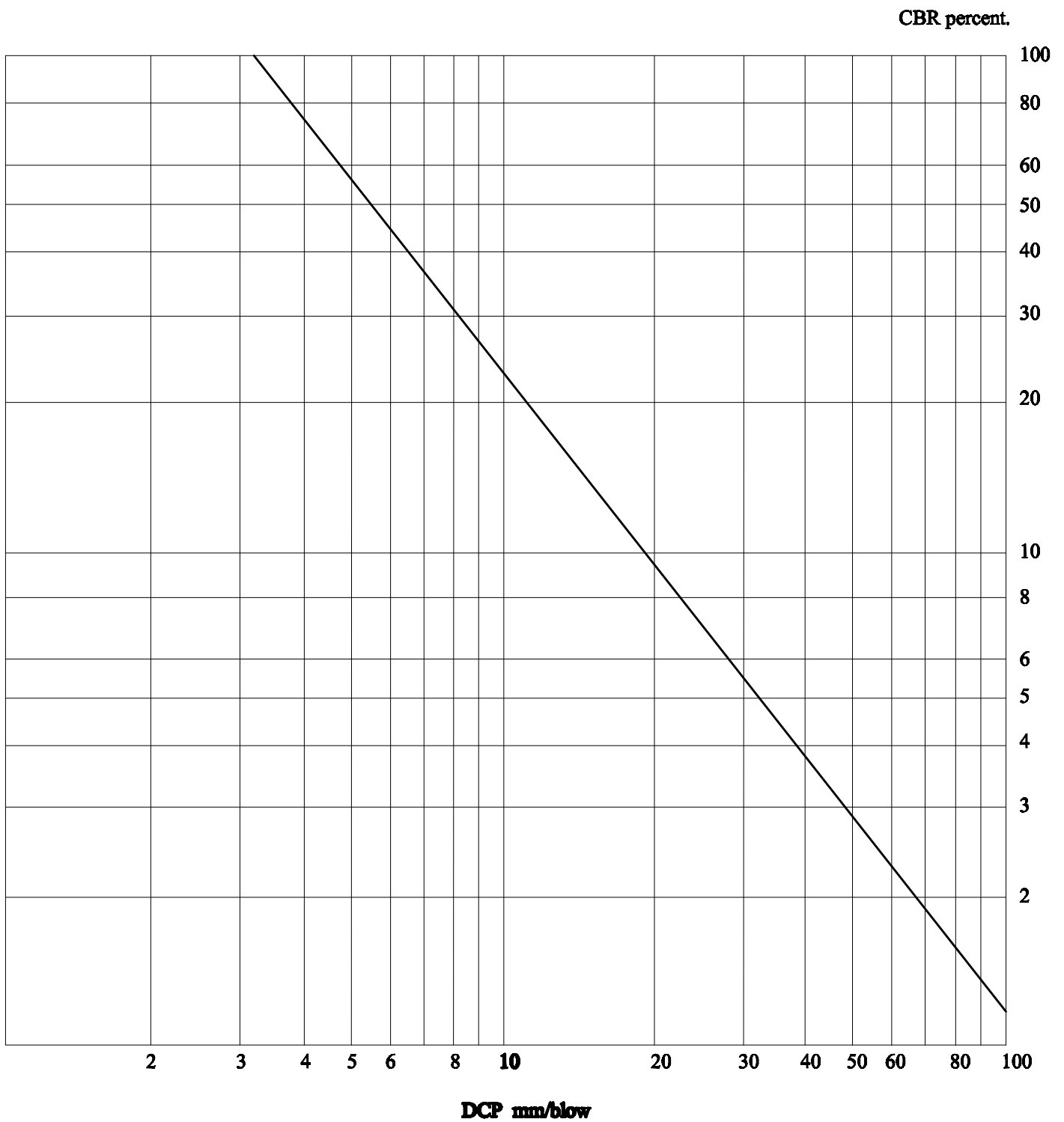
**Figure 2.40 Location Plan of Test Pit Log and DCP Test**

**LOCATION PLAN OF TEST PIT LOG AND DCP TEST**  
**ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT**  
**SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )**



- Legend:**
- ▣ - Test Pit Log
  - ⊕ - DCP Test

**Figure 2.41 Location Plan of Test Pit Log and DCP Test**



**DCP - CBR RELATIONSHIP CHART**  
**( Kleyn and Van Heerden 60° cone )**

**Figure 3 DCP-CBR Relationship Chart**




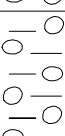


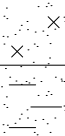



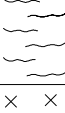
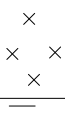
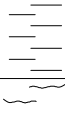

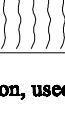
MAJOR DIVISIONS		GROUP SYMBOL	TYPICAL NAMES	LABORATORY CLASSIFICATION CRITERIA	
<b>COARSE GRAINED SOILS</b> More than half of material is larger than No.200 ( 75 micron ) sieve	<b>Gravels</b> More than half of coarse fraction larger than No.4 ( 4.75 mm ) sieve	 GW	Well graded gravels, gravel-sand mixtures. little or no fines	$C_U = \frac{D_{60}}{D_{10}} \quad \text{greater than 4}$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} \quad \text{between 1 and 3}$	
		 GP	Poorly graded gravels, gravel-sand mixtures. little or no fines		<b>Not meeting all gradation requirements for GW</b>
		 GM	Silty gravels, gravel-sand-silt mixtures.	Atterberg limits <b>below " A " line</b> or PI less than 4	Above " A " line with PI between 4 and 7 are borderline cases requiring dual symbols GM - GC
		 GC	Clayey gravels, gravel-sand-clay mixtures.	Atterberg limits <b>above " A " line</b> with PI greater than 7	
		<b>Sands</b> More than half of coarse fraction smaller than No.4 ( 4.75 mm ) sieve	 SW	Well graded sands, gravelly sands, little or no fines	$C_U = \frac{D_{60}}{D_{10}} \quad \text{greater than 6}$ $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}} \quad \text{between 1 and 3}$
	 SP		Poorly graded sands, gravelly sands, little or no fines	<b>Not meeting all gradation requirements for SW</b>	
	 SM		Silty sands, sand-silt mixtures.	Atterberg limits <b>below " A " line</b> or PI less than 4	Above " A " line with PI between 4 and 7 are borderline cases requiring dual symbols SM - SC
	 SC		Clayey sands, sand-clay mixtures.	Atterberg limits <b>above " A " line</b> with PI greater than 7	
	<b>FINE GRAINED SOILS</b> More than half of material is smaller than No.200 ( 75 micron ) sieve		<b>Silts and Clays</b> Liquid limit less than 50	 ML	Inorganic silts, rock flour, silty or clayey fine sands, clayey silts with slight plasticity
		 CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
 OL		Organic silts and organic silty clays of low plasticity			
<b>Silts and Clays</b> Liquid limit greater than 50		 MH	Inorganic silts, clayey silts, micaceous or diatomaceous fine sandy or silty soils elastic silts		
		 CH	Inorganic clays of high plasticity, fat clays		
		 OH	Organic clays and silty clays of medium to high plasticity, organic silts		
		 Pt	Peat and other highly organic soils		
<b>Borderline classification, used for soils possessing characteristics of two groups, are designated by dual symbols</b>					

Figure 4 Unified Soil Classification System

**8. APPENDIX A SUMMARY OF DCP TEST RESULTS**

Table A -1 to A -19 Summary of DCP Test Results

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
01	0+000, Lt/8.40 m	920	21.90	8	-	-	-	-	-	-
02	0+037, Rt/4.50 m	921	3.92	75	-	-	-	-	-	-
03	0+250, Rt/4.50 m	370	3.19	97	575	15.13	13	-	-	-
04	0+500, Lt/8.00 m	875	46.05	3	-	-	-	-	-	-
05	0+750, Rt/5.50 m	400	5.48	49	505	16.83	12	-	-	-
06	1+000, Lt/10.30 m	912	8.85	26	-	-	-	-	-	-
07	1+250, Rt/6.00 m	405	20.25	9	505	38.85	4	-	-	-
08	1+525, Lt/8.00 m	920	61.33	2	-	-	-	-	-	-
09	1+750, Rt/6.00 m	912	13.61	15	-	-	-	-	-	-
10	2+000, Rt/6.00 m	910	7.00	36	-	-	-	-	-	-
11	2+000, Lt/8.20 m	905	75.42	2	-	-	-	-	-	-
12	2+250, Rt/5.50 m	380	5.35	50	525	13.46	15	-	-	-
13	2+500, Lt/8.00 m	390	10.26	22	515	32.19	5	-	-	-
14	2+725, Rt/6.50 m	875	20.35	9	-	-	-	-	-	-
15	3+000, Lt/9.00 m	910	56.88	2	-	-	-	-	-	-

**Table A - 1 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
16	3+250, Rt/6.60 m	900	6.00	43	-	-	-	-	-	-
17	3+490, Lt/8.80 m	910	70.00	2	-	-	-	-	-	-
18	3+750, Rt/6.00 m	400	10.53	21	490	23.33	8	-	-	-
19	3+992, Rt/5.50 m	915	6.31	41	-	-	-	-	-	-
20	4+008, Lt/8.00 m	925	23.72	7	-	-	-	-	-	-
21	4+250, Rt/7.60 m	489	5.56	48	421	13.58	15	-	-	-
22	4+515, Lt/14.00 m	451	14.55	14	476	34.00	5	-	-	-
23	4+750, Rt/7.00 m	450	12.50	17	440	88.00	1	-	-	-
24	5+000, Lt/7.50 m	845	140.83	1	-	-	-	-	-	-
25	5+250, Rt/6.00 m	502	6.69	38	410	37.27	4	-	-	-
26	5+500, Lt/9.20 m	510	8.23	29	402	36.55	4	-	-	-
27	5+750, Rt/6.00 m	513	6.84	37	392	21.78	8	-	-	-
28	6+000, Lt/6.00 m	895	14.67	14	-	-	-	-	-	-
29	6+000, Rt/7.00 m	900	11.39	19	-	-	-	-	-	-
30	6+250, Lt/8.00 m	900	16.67	12	-	-	-	-	-	-

**Table A - 2 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
31	6+500, Rt/6.50 m	265	8.03	30	645	28.04	6	-	-	-
32	6+750, Lt/14.00 m	500	14.29	14	380	42.22	4	-	-	-
33	6+983, Lt/10.00 m	925	61.67	2	-	-	-	-	-	-
34	7+250, Rt/6.00 m	475	6.51	39	445	12.71	17	-	-	-
35	7+500, Lt/9.50 m	925	42.05	4	-	-	-	-	-	-
36	7+750, Rt/6.00 m	255	8.79	27	651	43.40	3	-	-	-
37	8+010, Rt/5.00 m	904	12.73	17	-	-	-	-	-	-
38	8+062, Lt/13.00 m	930	66.43	2	-	-	-	-	-	-
39	8+250, Rt/5.50 m	400	5.33	50	525	20.19	9	-	-	-
40	8+500, Lt/8.00 m	920	51.11	3	-	-	-	-	-	-
41	8+750, Rt/6.00 m	580	4.68	59	345	8.85	26	-	-	-
42	9+000, Lt/9.00 m	927	61.80	2	-	-	-	-	-	-
43	9+250, Rt/6.00 m	925	6.01	43	-	-	-	-	-	-
44	9+500, Lt/9.60 m	490	21.30	9	430	18.70	10	-	-	-
45	9+750, Rt/5.50 m	930	9.03	26	-	-	-	-	-	-

**Table A - 3 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
46	9+957, Lt/11.50 m	897	15.20	13	-	-	-	-	-	-
47	9+985, Rt/4.50 m	925	6.25	41	-	-	-	-	-	-
48	10+250, Lt/11.20 m	830	14.56	14	-	-	-	-	-	-
49	10+500, Rt/6.00 m	410	6.21	41	497	24.85	7	-	-	-
50	10+750, Lt/11.50 m	930	103.33	1	-	-	-	-	-	-
51	11+000, Rt/6.20 m	910	20.68	9	-	-	-	-	-	-
52	11+017, Lt/13.00 m	930	66.43	2	-	-	-	-	-	-
53	11+250, Rt/5.30 m	280	4.12	70	630	21.72	8	-	-	-
54	11+500, Lt/14.00 m	905	64.64	2	-	-	-	-	-	-
55	11+750, Rt/6.80 m	915	39.78	4	-	-	-	-	-	-
56	12+000, Rt/5.00 m	902	36.08	4	-	-	-	-	-	-
57	12+075, Lt/13.50 m	930	66.43	2	-	-	-	-	-	-
58	12+250, Lt/5.50 m	412	15.85	12	508	46.18	3	-	-	-
59	12+500, Rt/6.00 m	280	12.73	17	635	37.35	4	-	-	-
60	12+750, Lt/12.00 m	913	41.50	4	-	-	-	-	-	-

**Table A - 4 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
61	13+000, Rt/7.00 m	306	10.93	20	614	68.22	2	-	-	-
62	13+000, Lt/13.00 m	925	44.05	3	-	-	-	-	-	-
63	13+250, Rt/4.80 m	515	4.22	68	425	26.56	6	-	-	-
64	13+500, Lt/14.00 m	345	69.00	2	140	28.00	6	410	102.50	1
65	13+750, Rt/5.00 m	341	10.03	22	569	33.47	5	-	-	-
66	14+008, Lt/14.50 m	930	33.21	5	-	-	-	-	-	-
67	14+008, Rt/5.50 m	905	14.37	14	-	-	-	-	-	-
68	14+250, Rt/5.00 m	300	4.69	59	620	22.96	8	-	-	-
69	14+550, Lt/10.90 m	910	113.75	1	-	-	-	-	-	-
70	14+750, Rt/5.50 m	420	6.09	42	495	27.50	6	-	-	-
71	15+018, Lt/12.80 m	930	35.77	4	-	-	-	-	-	-
72	15+250, Rt/5.00 m	410	9.11	25	515	24.52	7	-	-	-
73	15+500, Lt/9.40 m	890	44.50	3	-	-	-	-	-	-
74	15+750, Rt/5.50 m	365	13.04	16	530	44.17	3	-	-	-
75	16+000, Lt/12.90 m	900	100.00	1	-	-	-	-	-	-

**Table A - 5 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
76	16+000, Rt/5.60 m	515	19.81	9	410	34.17	5	-	-	-
77	16+250, Lt/9.70 m	880	80.00	2	-	-	-	-	-	-
78	16+500, Rt/5.50 m	905	5.29	51	-	-	-	-	-	-
79	16+750, Lt/11.20 m	380	11.88	18	550	50.00	3	-	-	-
80	17+000, Rt/5.50 m	490	8.45	28	420	19.09	10	-	-	-
81	17+000, Lt/10.50 m	930	93.00	1	-	-	-	-	-	-
82	17+250, Rt/5.30 m	510	12.44	17	420	28.00	6	-	-	-
83	17+500, Lt/10.00 m	930	116.25	1	-	-	-	-	-	-
84	17+750, Rt/5.00 m	520	9.81	23	400	12.90	16	-	-	-
85	18+000, Lt/13.40 m	930	66.43	2	-	-	-	-	-	-
86	18+000, Rt/5.20 m	930	19.38	10	-	-	-	-	-	-
87	18+250, Lt/12.80 m	930	58.13	2	-	-	-	-	-	-
88	18+500, Rt/5.50 m	420	3.89	75	510	12.75	16	-	-	-
89	18+750, Lt/13.50 m	930	32.07	5	-	-	-	-	-	-
90	19+000, Rt/5.50 m	480	12.31	17	440	44.00	3	-	-	-

**Table A - 6 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
91	18+990, Lt/11.10 m	920	38.33	4	-	-	-	-	-	-
92	19+250, Rt/5.50 m	930	8.09	30	-	-	-	-	-	-
93	19+500, Lt/10.00 m	400	10.53	21	540	22.50	8	-	-	-
94	19+750, Rt/6.00 m	405	8.10	29	510	23.18	8	-	-	-
95	20+000, Lt/12.00 m	950	63.33	2	-	-	-	-	-	-
96	20+000, Rt/6.00 m	915	6.44	39	-	-	-	-	-	-
97	20+250, Lt/12.00 m	950	135.71	1	-	-	-	-	-	-
98	20+500, Rt/5.50 m	460	4.47	63	455	9.89	23	-	-	-
99	20+750, Lt/15.20 m	620	103.33	1	310	103.33	1	-	-	-
100	21+000, Lt/7.00 m	550	50.00	3	380	21.11	9	-	-	-
101	21+000, Rt/4.50 m	935	7.45	32	-	-	-	-	-	-
102	21+050, Lt/14.00 m	890	17.45	11	-	-	-	-	-	-
103	21+250, Rt/5.50 m	920	10.34	22	-	-	-	-	-	-
104	21+500, Lt/11.50 m	930	103.33	1	-	-	-	-	-	-
105	21+750, Rt/5.50 m	930	30.00	6	-	-	-	-	-	-

**Table A - 7 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
106	22+000, Lt/14.50 m	930	71.54	2	-	-	-	-	-	-
107	22+000, Rt/5.20 m	930	14.53	14	-	-	-	-	-	-
108	22+250, Lt/11.50 m	930	116.25	1	-	-	-	-	-	-
109	22+500, Rt/5.50 m	436	6.71	37	489	32.60	5	-	-	-
110	22+750, Lt/14.00 m	802	89.11	1	-	-	-	-	-	-
111	23+000, Rt/5.00 m	496	4.96	55	434	16.07	12	-	-	-
112	23+000, Lt/10.00 m	910	113.75	1	-	-	-	-	-	-
113	23+250, Rt/5.20 m	410	2.37	142	520	11.56	19	-	-	-
114	23+500, Lt/10.50 m	930	51.67	3	-	-	-	-	-	-
115	23+750, Rt/5.50 m	590	9.52	24	325	40.63	4	-	-	-
116	24+000, Lt/7.00 m	930	25.58	7	-	-	-	-	-	-
117	24+000, Rt/5.50 m	516	8.19	29	414	27.60	6	-	-	-
118	24+250, Lt/7.50 m	550	50.00	3	375	93.75	1	-	-	-
119	24+500, Rt/5.00 m	920	8.93	26	-	-	-	-	-	-
120	24+750, Lt/10.00 m	930	19.38	10	-	-	-	-	-	-

**Table A - 8 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
121	25+000, Rt/5.30 m	350	8.75	27	565	40.36	4	-	-	-
122	25+000, Lt/10.00 m	930	93.00	1	-	-	-	-	-	-
123	25+250, Rt/5.20 m	925	14.23	14	-	-	-	-	-	-
124	25+500, Lt/10.00 m	910	16.25	12	-	-	-	-	-	-
125	25+750, Rt/5.30 m	595	10.82	20	330	41.25	4	-	-	-
126	26+000, Lt/10.00 m	915	39.78	4	-	-	-	-	-	-
127	26+025, Rt/5.20 m	885	11.55	19	-	-	-	-	-	-
128	26+250, Lt/10.00 m	920	83.64	1	-	-	-	-	-	-
129	26+500, Rt/5.30 m	495	7.17	34	415	23.06	8	-	-	-
130	26+750, Lt/10.00 m	935	77.92	2	-	-	-	-	-	-
131	27+000, Rt/5.40 m	685	20.76	9	230	57.50	2	-	-	-
132	27+000, Lt/10.50 m	920	65.71	2	-	-	-	-	-	-
133	27+250, Rt/5.20 m	412	13.73	15	508	56.44	2	-	-	-
134	27+500, Lt/11.00 m	930	42.27	4	-	-	-	-	-	-
135	27+750, Rt/5.30 m	925	28.91	6	-	-	-	-	-	-

**Table A - 9 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
136	28+050, Lt/11.00 m	932	62.13	2	-	-	-	-	-	-
137	28+050, Rt/5.20 m	930	12.40	17	-	-	-	-	-	-
138	28+250, Lt/10.00 m	935	71.92	2	-	-	-	-	-	-
139	28+500, Rt/5.30 m	305	6.78	37	605	28.81	6	-	-	-
140	28+750, Lt/10.00 m	593	118.60	1	330	55	3	-	-	-
141	29+000, Rt/6.00 m	890	10.45	21	-	-	-	-	-	-
142	29+020, Lt/8.00 m	925	61.67	2	-	-	-	-	-	-
143	29+250, Lt/8.00 m	930	35.77	4	-	-	-	-	-	-
144	29+500, Rt/7.00 m	920	61.33	2	-	-	-	-	-	-
145	29+750, Lt/8.50 m	920	61.33	2	-	-	-	-	-	-
146	30+000, Rt/6.00 m	892	7.76	31	-	-	-	-	-	-
147	30+000, Lt/7.50 m	920	57.50	2	-	-	-	-	-	-
148	30+250, Rt/10.00 m	915	41.59	4	-	-	-	-	-	-
149	30+500, Lt/6.50 m	340	18.89	10	570	63.33	2	-	-	-
150	30+750, Rt/7.00 m	510	9.44	24	405	28.93	6	-	-	-

**Table A - 10 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
151	31+000, Lt/6.00 m	925	14.02	15	-	-	-	-	-	-
152	31+250, Rt/8.00 m	920	13.94	15	-	-	-	-	-	-
153	31+500, Lt/9.00 m	930	25.83	7	-	-	-	-	-	-
154	31+750, Rt/5.20 m	380	3.80	78	545	10.69	21	-	-	-
155	32+000, Lt/5.00 m	520	8.81	26	405	40.5	4	-	-	-
156	32+000, Rt/9.00 m	930	54.71	3	-	-	-	-	-	-
157	32+250, Rt/5.00 m	420	9.55	24	505	42.08	4	-	-	-
158	32+500, Lt/5.00 m	930	54.71	3	-	-	-	-	-	-
159	32+750, Rt/8.00 m	930	77.50	2	-	-	-	-	-	-
160	33+000, Lt/8.00 m	952	40.22	4	-	-	-	-	-	-
161	33+000, Rt/9.00 m	915	83.18	1	-	-	-	-	-	-
162	33+250, Rt/6.00 m	520	8.81	26	405	40.50	4	-	-	-
163	33+500, Lt/6.00 m	410	8.37	28	520	27.37	6	-	-	-
164	33+750, Rt/8.00 m	290	6.30	41	625	39.06	4	-	-	-
165	33+990, Lt/8.00 m	930	27.35	6	-	-	-	-	-	-

**Table A - 11 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
166	33+990, Rt/5.00 m	915	10.89	20	-	-	-	-	-	-
167	34+250, Rt/8.50 m	915	57.19	2	-	-	-	-	-	-
168	34+500, Lt/6.00 m	440	7.10	35	475	27.94	6	-	-	-
169	34+750, Rt/5.00 m	930	5.81	45	-	-	-	-	-	-
170	35+000, Lt/6.00 m	915	15.25	13	-	-	-	-	-	-
171	35+000, Rt/8.00 m	920	61.33	2	-	-	-	-	-	-
172	35+250, Lt/7.00 m	450	34.62	5	470	58.75	2	-	-	-
173	35+500, Rt/5.00 m	365	6.29	41	560	29.47	6	-	-	-
174	35+750, Lt/5.50 m	585	6.29	41	335	18.61	10	-	-	-
175	36+015, Rt/8.00 m	925	51.39	3	-	-	-	-	-	-
176	36+000, Lt/9.00 m	935	66.79	2	-	-	-	-	-	-
177	36+250, Rt/6.00 m	935	19.08	10	-	-	-	-	-	-
178	36+500, Lt/5.50 m	925	12.50	17	-	-	-	-	-	-
179	36+750, Rt/8.00 m	930	44.29	3	-	-	-	-	-	-
180	37+010, Lt/8.00 m	930	17.88	11	-	-	-	-	-	-

**Table A - 12 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
181	37+010, Rt/5.50 m	630	8.63	27	305	33.89	5	-	-	-
182	37+250, Lt/5.50 m	545	10.48	21	370	30.83	5	-	-	-
183	37+500, Rt/10.00 m	925	71.15	2	-	-	-	-	-	-
184	37+750, Lt/8.00 m	925	46.25	3	-	-	-	-	-	-
185	38+025, Rt/5.00 m	920	15.59	13	-	-	-	-	-	-
186	38+025, Lt/6.00 m	840	7.30	34	-	-	-	-	-	-
187	38+250, Rt/9.00 m	930	38.75	4	-	-	-	-	-	-
188	38+500, Lt/8.00 m	230	9.58	24	695	46.33	3	-	-	-
189	38+750, Rt/5.50 m	370	12.33	17	560	40.00	4	-	-	-
190	39+000, Lt/5.50 m	930	15.50	13	-	-	-	-	-	-
191	39+000, Rt/7.00 m	180	18.00	11	750	68.18	2	-	-	-
192	39+250, Lt/7.50 m	260	11.30	19	665	83.13	1	-	-	-
193	39+500, Rt/5.00 m	530	12.62	17	380	42.22	4	-	-	-
194	39+750, Lt/6.00 m	278	2.93	>100	642	9.73	23	-	-	-
195	40+000, Rt/10.00 m	-	-	-	-	-	-	-	-	-

**Table A - 13 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
196	40+000, Lt/6.00 m	-	-	-	-	-	-	-	-	-
197	40+250, Rt/6.00 m	590	12.29	17	340	42.50	4	-	-	-
198	40+500, Lt/6.00 m	520	6.67	38	395	26.33	7	-	-	-
199	40+750, Rt/8.00 m	435	20.71	9	490	49	3	-	-	-
200	41+000, Lt/9.00 m	925	84.09	1	-	-	-	-	-	-
201	41+000, Rt/5.00 m	340	5.15	53	590	19.67	9	-	-	-
202	41+250, Lt/5.50 m	920	8.76	27	-	-	-	-	-	-
203	41+500, Rt/8.00 m	300	15.00	13	625	44.64	3	-	-	-
204	41+750, Lt/8.00 m	410	6.95	36	520	13.68	15	-	-	-
205	42+000, Rt/5.50 m	915	6.31	41	-	-	-	-	-	-
206	42+000, Lt/5.50 m	925	7.46	33	-	-	-	-	-	-
207	42+250, Rt/8.00 m	925	17.13	11	-	-	-	-	-	-
208	42+500, Lt/8.00 m	250	15.63	13	680	42.50	4	-	-	-
209	42+750, Rt/5.50 m	540	8.06	30	390	24.38	7	-	-	-
210	42+988, Lt/5.00 m	925	7.06	35	-	-	-	-	-	-

**Table A - 14 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
211	43+000, Rt/8.00 m	930	66.43	2	-	-	-	-	-	-
212	43+250, Lt/7.00 m	515	42.92	3	420	105.00	1	-	-	-
213	43+500, Rt/6.00 m	265	18.93	10	675	61.36	2	-	-	-
214	43+750, Lt/6.00 m	540	13.17	16	-	-	-	-	-	-
215	44+000, Rt/9.00 m	930	54.71	3	-	-	-	-	-	-
216	44+000, Lt/9.00 m	500	7.81	31	425	30.36	5	-	-	-
217	44+250, Rt/5.00 m	610	5.65	47	320	18.82	10	-	-	-
218	44+500, Lt/5.00 m	930	10.00	22	-	-	-	-	-	-
219	44+750, Rt/7.00 m	585	19.50	10	355	50.71	3	-	-	-
220	45+000, Lt/6.50 m	930	51.67	3	-	-	-	-	-	-
221	45+000, Rt/7.00 m	620	16.76	12	305	43.57	3	-	-	-
222	45+250, Lt/5.50 m	915	7.63	32	-	-	-	-	-	-
223	45+500, Rt/5.50 m	920	8.00	30	-	-	-	-	-	-
224	45+750, Lt/7.50 m	930	48.95	3	-	-	-	-	-	-
225	46+000, Rt/5.00 m	910	8.83	26	-	-	-	-	-	-

**Table A - 15 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
226	46+000, Lt/5.00 m	650	6.99	36	280	46.67	3	-	-	-
227	46+250, Rt/8.00 m	930	7.44	33	-	-	-	-	-	-
228	46+500, Lt/9.00 m	910	9.78	23	-	-	-	-	-	-
229	46+750, Rt/6.50 m	910	21.67	8	-	-	-	-	-	-
230	46+995, Lt/5.00 m	910	4.01	72	-	-	-	-	-	-
231	47+000, Rt/5.00 m	305	4.12	70	615	13.98	15	-	-	-
232	47+250, Lt/8.00 m	930	38.75	4	-	-	-	-	-	-
233	47+500, Rt/7.50 m	925	12.17	17	-	-	-	-	-	-
234	47+750, Lt/7.50 m	930	10.57	21	-	-	-	-	-	-
235	48+000, Rt/9.00 m	915	11.58	19	-	-	-	-	-	-
236	48+000, Lt/9.00 m	920	54.12	3	-	-	-	-	-	-
237	48+250, Rt/5.00 m	262	5.24	51	668	17.58	11	-	-	-
238	48+500, Lt/6.00 m	930	8.16	29	-	-	-	-	-	-
239	48+750, Rt/9.00 m	565	28.25	6	365	14.04	15	-	-	-
240	49+000, Lt/8.50 m	930	54.71	3	-	-	-	-	-	-

**Table A - 16 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
241	49+000, Rt/8.00 m	340	13.60	15	580	44.62	3	-	-	-
242	49+250, Lt/5.00 m	430	5.97	44	490	25.79	7	-	-	-
243	49+500, Rt/5.00 m	175	8.33	28	740	32.17	5	-	-	-
244	49+750, Lt/7.00 m	930	29.06	6	-	-	-	-	-	-
245	50+000, Rt/6.00 m	920	6.67	38	-	-	-	-	-	-
246	50+000, Lt/6.00 m	910	7.40	33	-	-	-	-	-	-
247	50+250, Rt/8.00 m	940	42.73	4	-	-	-	-	-	-
248	50+500, Lt/9.00 m	930	44.29	3	-	-	-	-	-	-
249	50+750, Rt/6.00 m	925	9.64	24	-	-	-	-	-	-
250	51+000, Lt/5.00 m	930	7.75	31	-	-	-	-	-	-
251	51+000, Rt/7.00 m	930	38.75	4	-	-	-	-	-	-
252	51+250, Lt/7.00 m	507	9.57	24	408	40.80	4	-	-	-
253	51+500, Rt/5.00 m	515	10.30	22	410	45.56	3	-	-	-
254	51+750, Lt/5.00 m	520	12.68	17	400	40.00	4	-	-	-
255	52+000, Rt/8.00 m	915	30.50	5	-	-	-	-	-	-

**Table A - 17 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
256	52+000, Lt/7.00 m	925	51.39	3	-	-	-	-	-	-
257	52+250, Rt/5.00 m	290	6.44	39	645	28.04	6	-	-	-
258	52+500, Lt/5.00 m	400	4.65	60	540	41.54	4	-	-	-
259	52+750, Rt/7.00 m	930	18.24	10	-	-	-	-	-	-
260	53+000, Lt/8.00 m	930	66.43	2	-	-	-	-	-	-
261	53+000, Rt/7.00 m	920	18.40	10	-	-	-	-	-	-
262	53+250, Lt/6.00 m	445	4.59	61	485	21.09	9	-	-	-
263	53+500, Rt/5.20 m	290	13.18	16	645	35.83	4	-	-	-
264	53+750, Lt/8.50 m	930	27.35	6	-	-	-	-	-	-
265	54+000, Rt/5.50 m	930	10.45	21	-	-	-	-	-	-
266	54+000, Lt/5.50 m	940	11.46	19	-	-	-	-	-	-
267	54+250, Rt/5.50 m	935	28.33	6	-	-	-	-	-	-
268	54+500, Lt/8.00 m	940	20.89	9	-	-	-	-	-	-
269	54+750, Rt/5.50 m	647	6.88	36	940	32.56	5	-	-	-
270	54+980, Lt/5.00 m	920	4.72	59	-	-	-	-	-	-

**Table A - 18 Summary of DCP Test Results**

## SUMMARY OF DCP TEST RESULTS

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT

Road No: 13 N

Test No.	Chainage and offset from CL (Km)	Layer 1			Layer 2			Layer 3		
		Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)	Thickness (mm)	DCP (mm/bl)	CBR (%)
271	54+980, Rt/5.00 m	920	11.50	19	-	-	-	-	-	-
272	55+250, Lt/8.00 m	940	78.33	2	-	-	-	-	-	-
273	55+500, Rt/8.00 m	930	66.43	2	-	-	-	-	-	-
274	55+750, Lt/5.00 m	405	5.33	50	535	14.08	15	-	-	-
275	56+010, Rt/7.00 m	915	28.59	6	-	-	-	-	-	-
276	56+000, Lt/7.00 m	940	94.00	1	-	-	-	-	-	-
277	56+250, Rt/5.00 m	925	26.43	6	-	-	-	-	-	-
278	56+500, Lt/5.00 m	940	18.43	10	-	-	-	-	-	-
279	56+772.6, Rt/7.20 m	925	13.03	16	-	-	-	-	-	-
280	56+772.6, Lt/7.50 m	940	27.65	6	-	-	-	-	-	-

**Table A - 19 Summary of DCP Test Results**

<b>9.</b>	<b>APPENDIX B</b>	<b>SUMMARY OF TEST RESULTS FOR TEST PITS</b>
	Table B -1 to B -6	Summary of Laboratory Test Results for Test Pits
	Figure B -1 to B -280	DCP Profile and Test Pit Log

<b>ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT</b>	<b>LAO TRANSPORT ENGINEERING CONSULTANT</b>  <b>(LTEC)</b>	<b>SUMMARY OF LABORATORY TEST RESULTS</b>  <b>FOR TEST PIT</b>	<b>DATE : 21/08/2017</b>
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SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )

Sample No.	Sample Location			Sieve Analysis Test (AASHTO T88)												Atterberg Tests			Soil Classification		Field Dry Density		Compaction Tests		Laboratory Soil Strength Tests										FDD	Soil Description
	Station	Side Ways	Depth	Percent Passing Sieve (%)												AASHTO T89, T90			AASHTO M-145	USCS	DD	MC	MDD	OMC	Strength Tests											
																CBR AASHTO T193																				
	Km	m	m	76.2	50.8	38.1	25.4	19.1	12.7	9.5	4.76	2.00	0.420	0.149	0.075	LL	PL	PI	DD	MC	MDD	OMC	10 blows	30 blows	65 blows	Swell	CBR at percent of MDD									
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	%	%	%	g/cm <sup>3</sup>	%	g/cm <sup>3</sup>	%	DD	DD	DD	%	100	98	95	%	%	%					
TP01-S1	0+000	Lt/8.40	0.15-1.00	100	90.1	90.1	80.5	70.0	56.8	49.8	34.6	25.3	16.5	6.0	2.9	21.8	15.0	6.8	A-2-4(0)	GP	1.79	16.6	2.05	9.0	1.79	1.98	2.06	1.00	59	50	38	87	Brownish yellow, poorly graded gravels and gravels sands.			
TP02-S1	0+037	Rt/4.50	0.16-1.00	-	-	100	96.7	92.5	89.2	87.3	83.9	80.5	70.0	52.2	48.7	19.2	12.0	7.2	A-4(0)	SC	1.99	10.0	2.25	5.5	2.12	2.19	2.27	0.77	40	35	25	88	Brownish yellow, clayey sands little gravels.			
TP03-S1	1+000	Lt/10.30	0.20-1.00	-	100	91.4	85.9	84.4	79.6	77.0	71.6	67.1	59.0	43.9	39.3	23.6	16.1	7.5	A-4(0)	SC	1.41	27.8	2.06	8.0	1.85	1.98	2.07	1.05	40	35	25	68	Gray, clayey sands some gravels.			
TP04-S1	2+000	Rt/6.00	0.00-1.00	-	-	100	92.2	92.2	86.5	81.9	70.5	57.6	44.6	28.2	22.1	17.9	14.9	3.0	A-2-4(0)	SM	1.96	6.1	2.20	5.4	1.98	2.12	2.23	0.74	70	62	50	89	Yellowish red, silty sands some gravels.			
TP05-S1	2+000	Lt/8.20	0.10-1.00	-	-	100	85.8	84.7	77.5	74.7	68.9	65.9	57.8	40.0	29.4	20.5	13.1	7.4	A-2-4(0)	SC	1.68	14.0	2.12	7.9	1.86	2.04	2.14	0.84	62	55	45	79	Brown, clayey sands some laterites+gravels.			
TP06-S1	3+000	Lt/9.00	0.15-1.00	100	81.9	71.8	69.8	65.9	59.0	54.6	47.8	43.5	37.2	25.8	20.7	18.4	14.3	4.1	A-2-4(0)	GM	1.86	13.0	2.19	6.2	1.96	2.09	2.20	4.86	80	71	58	85	Brownish yellow, silty gravels.			
TP07-S1	3+992	Rt/5.50	0.18-1.00	-	-	100	80.2	74.0	66.1	60.9	55.0	50.8	43.5	27.1	22.4	19.8	15.1	4.7	A-2-4(0)	GM	2.05	8.1	2.23	4.7	2.03	2.13	2.24	4.90	90	72	46	92	Dark red, silty gravels.			
TP08-S1	4+008	Lt/8.00	0.15-1.00	-	100	91.8	83.6	80.2	69.4	65.1	59.8	55.8	49.0	36.1	29.4	22.9	15.2	7.7	A-2-4(0)	GC	1.54	17.0	2.20	5.5	1.91	2.10	2.22	3.19	45	40	34	70	Dark red, clayey gravels.			
TP09-S1	5+000	Lt/7.50	0.10-1.00	-	-	-	100	98.2	97.2	94.4	92.1	84.6	55.0	44.6	17.0	14.9	2.1	A-4(0)	SM	1.53	15.8	2.08	7.5	1.91	2.00	2.10	3.78	8	7	5	74	Gray, silty sands trace gravels.				
TP10-S1	6+000	Lt/6.00	0.15-1.00	-	-	100	94.8	85.3	79.6	76.5	70.1	64.1	55.1	37.8	31.6	20.9	18.2	2.7	A-2-4(0)	SM	1.56	18.2	1.89	9.8	1.67	1.81	1.91	5.03	28	24	18	83	Gray, silty sands some gravels.			
TP11-S1	6+000	Rt/5.00	0.20-1.00	-	-	100	92.2	87.3	80.8	76.8	64.5	50.7	38.9	28.5	25.2	25.0	16.9	8.1	A-2-4(0)	SC	1.93	7.6	2.18	7.7	2.02	2.11	2.19	3.67	35	28	20	89	Brownish yellow, clayey sands and gravels.			
TP12-S1	6+983	Lt/10.00	0.00-1.00	-	-	-	-	-	-	100	99.4	99.1	97.4	87.4	80.4	23.0	14.1	8.9	A-4(4)	CL	1.45	23.0	1.92	12.2	1.75	1.85	1.93	4.74	15	10	5	76	Dark brown, silty clays.			
TP13-S1	8+010	Rt/5.00	0.13-1.00	-	100	94.5	86.9	80.7	71.3	66.4	56.8	50.5	41.2	29.6	26.9	25.8	16.8	9.0	A-2-4(0)	GC	1.98	8.7	2.13	7.6	1.89	2.05	2.15	3.19	55	49	39	93	Brownish yellow, clayey gravels.			
TP14-S1	8+062	Lt/13.00	0.00-1.00	-	-	-	-	100	99.1	99.1	98.9	98.8	97.0	72.1	54.9	18.3	13.1	5.2	A-4(0)	CL-ML	1.50	20.9	1.91	9.6	1.80	1.86	1.92	4.29	15	10	4	79	Gray, clayey fine sands.			

**Remark :**

**Legend :**

<b>LL</b>	<b>Liquid Limit</b>	<b>OMC</b>	<b>Optimum Moisture Content</b>
<b>PL</b>	<b>Plastic Limit</b>	<b>MDD</b>	<b>Maximum Dry Density</b>
<b>PI</b>	<b>Plasticity Index</b>	<b>MC</b>	<b>Moisture content</b>
<b>FDD</b>	<b>Field Dry density</b>	<b>DD</b>	<b>Dry Density</b>

**Table B-1 Summary of Laboratory Test Results for Test Pits**

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT				LAO TRANSPORT ENGINEERING CONSULTANT  (LTEC)										SUMMARY OF LABORATORY TEST RESULTS  FOR TEST PIT										DATE : 21/08/2017		
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SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )

Sample No.	Sample Location			Sieve Analysis Test (AASHTO T88)												Atterberg Tests			Soil Classification		Field Dry Density		Compaction Tests		Laboratory Soil Strength Tests										FDD	Soil Description
	Station	Side Ways	Depth	Percent Passing Sieve (%)												AASHTO T89, T90			AASHTO M-145	USCS	DD	MC	MDD	OMC	Strength Tests											
				76.2	50.8	38.1	25.4	19.1	12.7	9.5	4.76	2.00	0.420	0.149	0.075	LL	PL	PI							CBR AASHTO T193											
	mm	mm	mm																mm	mm	mm	mm	mm	mm	mm	mm	mm	%	%	%	10 blows	30 blows	65 blows	Swell		
TP15-S1	9+000	Lt/9.00	0.17-1.00	-	-	-	100	97.1	96.7	94.0	91.4	89.0	81.7	57.3	52.9	19.2	14.6	4.6	A-4(0)	CL-ML	1.48	23.7	2.03	8.9	1.89	1.97	2.04	4.72	22	18	12	73	Brownish yellow, clayey fine sands.			
TP16-S1	9+957	Lt/11.50	0.17-1.00	-	100	93.8	83.4	79.5	71.8	67.1	56.9	52.6	44.4	32.4	29.9	22.0	14.5	7.5	A-2-4(0)	GC	1.90	11.5	2.14	8.3	1.90	2.06	2.15	3.38	35	28	18	89	Light red, clayey gravels.			
TP17-S1	9+985	Rt/4.50	0.18-1.00	-	100	94.7	89.1	83.8	76.4	69.5	59.7	52.9	44.0	30.3	26.9	20.0	15.4	4.6	A-2-4(0)	GM	1.93	6.0	2.17	7.4	2.03	2.11	2.19	2.18	40	35	30	89	Yellowish red, silty gravels.			
TP18-S1	10+017	Lt/13.00	0.00-1.00	-	-	-	-	100	99.5	98.7	98.0	97.5	95.8	89.0	54.1	22.2	12.9	9.3	A-4(5)	CL	1.68	18.8	2.00	9.6	1.88	1.94	2.01	2.12	18	15	10	84	Brownish yellow, silty clays trace laterites.			
TP19-S1	12+000	Rt/5.00	0.18-1.00	-	-	100	96.6	93.0	85.3	78.5	68.1	61.3	47.1	33.9	30.6	22.4	18.4	4.0	A-2-4(0)	SM	1.66	9.8	2.17	7.7	1.91	2.08	2.18	2.17	43	40	35	76	Red, silty sands some gravels.			
TP20-S1	12+075	Lt/13.50	0.00-1.00	-	-	-	-	100	99.3	94.7	86.0	65.6	54.9	52.4	36.0	23.7	12.3	A-6(4)	CL	1.44	23.3	1.64	19.4	1.48	1.58	1.65	3.46	12	10	7	88	Grayish brown, silty clays trace cracked slates.				
TP21-S1	13+000	Lt/13.00	0.00-1.00	-	-	-	-	100	99.1	98.7	97.4	96.8	93.1	71.9	64.6	19.4	12.0	7.4	A-4(2)	CL	1.64	9.4	2.09	8.3	1.94	2.02	2.10	0.53	15	12	6	78	Brownish yellow, silty clays.			
TP22-S1	14+008	Lt/14.50	0.18-1.00	-	100	95.1	90.0	87.4	80.9	77.3	72.1	68.0	59.3	37.7	33.6	17.0	9.9	7.1	A-2-4(0)	SC	1.64	17.1	2.17	7.9	2.03	2.11	2.18	0.45	32	26	18	76	Grayish brown, clayey sands some laterites.			
TP23-S1	14+008	Rt/4.50	0.18-1.00	-	-	100	91.3	87.3	81.2	75.8	69.1	65.1	55.8	30.8	27.8	17.6	10.5	7.1	A-2-4(0)	SC	1.94	9.5	2.16	6.4	2.01	2.10	2.17	0.24	32	30	27	90	Brownish yellow, clayey sands some gravel + laterites.			
TP24-S1	15+018	Lt/14.00	0.00-1.00	-	-	-	-	-	100	99.9	99.8	97.5	66.0	55.4	16.2	8.5	7.7	A-2-4(0)	SC	1.61	11.2	2.08	7.5	1.90	2.01	2.09	1.75	13	10	8	77	Strong brown, clayey sands.				
TP25-S1	16+000	Lt/13.50	0.00-1.00	-	-	100	93.6	92.3	91.8	91.2	90.6	90.3	83.0	42.5	35.9	15.2	7.5	7.7	A-2-4(0)	SC	1.49	19.3	2.03	7.2	1.88	1.96	2.04	0.31	13	11	7	73	Grayish brown, clayey sands trace gravels.			
TP26-S1	16+000	Rt/6.00	0.03-0.28	-	100	91.5	83.9	74.3	62.1	53.9	43.9	39.7	32.2	18.3	13.6	18.8	11.1	7.7	A-2-4(0)	GC	1.87	15.3	2.20	5.1	2.02	2.12	2.21	0.22	48	44	39	85	Brownish yellow, clayey sands and laterites.			
TP26-S2	16+000	Rt/6.00	0.28-1.00	-	-	100	97.7	94.2	91.0	88.9	85.6	83.5	76.2	41.2	37.5	16.1	13.2	2.9	A-4(0)	SM	1.65	17.6	2.12	6.6	1.95	2.05	2.13	0.72	30	25	15	78	Brownish yellow, silty sands little gravels + laterites.			
TP27-S1	17+000	Lt/10.50	0.00-1.00	-	-	-	100	96.5	96.5	96.0	95.6	95.4	93.9	65.9	59.6	15.9	12.8	3.1	A-4(0)	ML	1.43	23.7	2.02	6.9	1.88	1.96	2.03	0.22	12	9	4	71	Grayish brown, silty fine sands.			

<b>Remark :</b>	<b>Legend :</b>	<b>LL</b> Liquid Limit	<b>OMC</b> Optimum Moisture Content
		<b>PL</b> Plastic Limit	<b>MDD</b> Maximum Dry Density
		<b>PI</b> Plasticity Index	<b>MC</b> Moisture content
		<b>FDD</b> Field Dry density	<b>DD</b> Dry Density

Table B-2 Summary of Laboratory Test Results for Test Pits

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT				LAO TRANSPORT ENGINEERING CONSULTANT  (LTEC)										SUMMARY OF LABORATORY TEST RESULTS  FOR TEST PIT										DATE : 21/08/2017		
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SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )

Sample No.	Sample Location			Sieve Analysis Test (AASHTO T88)												Atterberg Tests			Soil Classification		Field Dry Density		Compaction Tests				Laboratory Soil Strength Tests										FDD	Soil Description
	Station	Side Ways	Depth	Percent Passing Sieve (%)												AASHTO T89, T90			AASHTO M-145	USCS	DD	MC	AASHTO T180 - D		Strength Tests													
				Km	m	m	76.2	50.8	38.1	25.4	19.1	12.7	9.5	4.76	2.00	0.420	0.149	0.075					LL	PL	PI	MDD	OMC	10 blows		30 blows		65 blows		Swell	CBR at percent of MDD			
	DD	CBR	DD																CBR	DD	CBR	%						100	98	95								
TP28-S1	18+000	Lt/13.00	0.00-1.00	-	-	100	87.7	81.1	74.4	70.6	65.9	62.3	56.4	46.1	44.1	31.0	20.8	10.2	A-6(1)	GC	1.49	19.7	1.98	8.4	1.78	1.90	1.99	2.99	30	25	18	75	Grayish brown, clayey sands.					
TP29-S1	18+000	Rt/5.50	0.18-1.00	-	-	100	91.2	84.5	77.8	72.5	65.9	62.0	49.2	32.4	28.8	17.7	10.3	7.4	A-2-4(0)	SC	1.83	16.9	2.17	7.0	1.99	2.09	2.18	0.45	48	44	38	84	Yellowish red, clayey sands some gravels.					
TP30-S1	19+000	Lt/12.00	0.15-1.00	-	-	-	100	98.2	88.7	86.5	82.6	79.8	72.9	42.8	36.1	17.3	14.6	2.7	A-4(0)	SM	1.51	17.1	1.99	8.0	1.82	1.92	2.00	0.59	34	29	21	76	Brownish yellow, silty sands little gravels.					
TP31-S1	20+000	Lt/11.00	0.15-1.00	-	-	-	100	99.1	97.6	96.4	95.2	90.2	50.4	45.5	15.5	13.0	2.5	A-4(0)	SM	1.48	20.4	2.09	7.5	1.92	2.02	2.10	0.24	38	34	28	71	Grayish brown, silty sands trace gravels.						
TP32-S1	20+000	Rt/5.00	0.18-1.00	-	-	-	100	89.4	81.3	69.2	61.7	44.2	25.4	21.6	17.0	9.5	7.5	A-2-4(0)	SC	1.55	17.0	2.20	6.7	2.05	2.13	2.21	0.22	42	37	30	70	Yellowish red, clayey sands some gravels.						
TP33-S1	21+050	Lt/14.00	0.00-1.00	-	-	100	97.5	97.5	97.2	97.2	97.1	96.9	90.2	56.7	50.5	15.8	10.2	5.6	A-4(0)	CL-ML	1.50	19.8	2.12	7.8	1.95	2.05	2.13	0.61	20	16	10	71	Grayish brown, clayey fine sands trace gravels.					
TP34-S1	22+000	Lt/15.00	0.00-1.00	-	-	-	-	100	99.9	99.8	99.8	97.8	76.7	72.0	17.7	12.0	5.7	A-4(1)	CL-ML	1.51	18.1	2.05	7.7	1.88	1.98	2.06	0.34	15	12	8	74	Grayish brown, clayey fine sands.						
TP35-S1	22+000	Rt/5.00	0.19-1.00	-	-	100	97.9	88.7	75.3	69.3	57.6	48.0	36.1	28.9	27.4	25.3	16.4	8.9	A-2-4(0)	GC	2.02	6.7	2.18	7.8	1.97	2.10	2.21	1.00	42	35	28	93	Yellowish red, clayey gravels.					
TP36-S1	23+000	Lt/10.00	0.40-1.00	-	-	-	-	100	99.2	97.8	94.6	87.5	67.7	59.6	17.5	13.9	3.6	A-4(0)	ML	1.50	18.9	2.09	7.5	1.90	2.01	2.10	0.39	15	13	10	72	Grayish brown, silty fine sands.						
TP37-S1	24+000	Lt/8.00	0.16-1.00	-	-	-	-	100	98.5	91.9	64.1	52.5	43.9	35.5	33.3	29.6	19.8	9.8	A-2-4(0)	GC	1.67	13.1	2.02	11.8	1.85	1.95	2.03	0.48	53	43	29	83	Dark red, clayey gravels.					
TP38-S1	24+000	Rt/5.00	0.20-0.45	-	-	100	96.7	90.7	80.8	75.2	64.8	57.4	41.9	28.8	25.4	21.6	13.8	7.8	A-2-4(0)	SC	2.01	8.1	2.16	6.9	1.96	2.08	2.17	0.61	52	42	29	93	Dark red, clayey sands some gravels.					
TP38-S2	24+000	Rt/5.00	0.45-1.00	-	-	-	-	100	99.2	91.8	76.1	59.4	46.5	44.4	27.9	16.6	11.3	A-6(2)	SC	1.68	11.7	2.05	9.6	1.87	1.97	2.07	0.19	42	39	35	82	Brownish yellow, clayey sands trace gravels.						
TP39-S1	25+000	Lt/10.00	0.10-1.00	-	-	-	-	100	99.9	99.7	98.9	78.7	73.0	18.6	11.0	7.6	A-4(2)	CL	1.56	16.7	2.03	8.7	1.81	2.01	2.07	0.45	13	16	18	77	Grayish brown, silty clays.							
TP40-S1	26+000	Lt/10.00	0.00-1.00	-	-	-	-	100	98.6	92.3	88.2	87.0	68.8	62.8	21.5	14.4	7.1	A-4(2)	CL	1.98	8.7	2.08	9.5	1.90	2.01	2.09	0.84	25	19	12	95	Grayish brown, silty clays trace laterites.						

<b>Remark :</b>	<b>Legend :</b>	<b>LL</b> Liquid Limit	<b>OMC</b> Optimum Moisture Content
		<b>PL</b> Plastic Limit	<b>MDD</b> Maximum Dry Density
		<b>PI</b> Plasticity Index	<b>MC</b> Moisture content
		<b>FDD</b> Field Dry density	<b>DD</b> Dry Density

Table B-3 Summary of Laboratory Test Results for Test Pits

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT	LAO TRANSPORT ENGINEERING CONSULTANT  (LTEC)	SUMMARY OF LABORATORY TEST RESULTS  FOR TEST PIT	DATE : 21/08/2017
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SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )

Sample No.	Sample Location			Sieve Analysis Test (AASHTO T88)												Atterberg Tests			Soil Classification		Field Dry Density		Compaction Tests				Laboratory Soil Strength Tests							FDD	Soil Description
	Station	Side Ways	Depth	Percent Passing Sieve (%)												AASHTO T89, T90			AASHTO M-145	USCS	DD	MC	AASHTO T180 - D				Strength Tests								
				76.2	50.8	38.1	25.4	19.1	12.7	9.5	4.76	2.00	0.420	0.149	0.075	LL	PL	PI					MDD	OMC	10 blows	30 blows	65 blows	Swell	CBR at percent of MDD						
	Km	m	m	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	%	%	%	g/cm <sup>3</sup>	%	g/cm <sup>3</sup>	%	DD	DD	DD	%	100		98	95	%				
TP41-S1	26+025	Rt/5.20	0.18-1.00	-	-	100	98.4	94.8	85.8	79.1	66.5	57.6	45.8	33.4	31.2	20.1	12.4	7.7	A-2-4(0)	SC	1.60	12.4	2.17	6.7	2.01	2.10	2.18	0.16	26	42	53	74	Yellowish red, clayey sands some gravels.		
TP42-S1	27+000	Lt/10.00	0.00-1.00	-	-	-	-	100	98.9	98.0	95.1	93.0	88.3	83.2	81.1	29.3	18.9	10.4	A-6(7)	CL	2.02	6.9	1.93	11.1	1.76	1.87	1.96	2.06	24	17	10	105	Brownish yellow, silty clays.		
TP43-S1	28+050	Lt/9.00	0.00-1.00	-	-	-	100	99.0	94.9	94.0	91.5	89.3	82.8	75.6	72.9	25.3	16.9	8.4	A-4(4)	CL	1.52	19.1	2.01	10.5	1.79	1.92	2.03	0.52	22	19	15	76	Brownish yellow, Silty clays little gravels.		
TP44-S1	28+050	Rt/5.00	0.19-1.00	-	-	100	91.0	87.1	76.0	69.7	57.6	48.6	33.7	22.6	20.6	18.4	11.0	7.4	A-2-4(0)	GC	2.02	6.9	2.21	6.8	2.05	2.14	2.22	0.14	55	45	30	91	Yellowish red, Clayey gravels.		
TP45-S1	29+020	Lt/8.00	0.00-1.00	-	-	100	95.2	87.3	77.0	72.5	63.2	54.5	39.7	29.5	27.5	26.2	18.2	8.0	A-2-4(0)	GC	1.62	10.7	2.10	8.4	1.86	1.99	2.11	0.38	42	37	30	77	Grayish brown, clayey gravels.		
TP46-S1	30+000	Rt/5.00	0.18-1.00	-	-	-	100	96.2	89.1	89.7	72.3	61.1	46.4	37.5	36.0	24.8	15.6	9.2	A-4(0)	SC	2.00	8.4	2.15	7.9	1.84	2.07	2.15	0.42	41	36	29	93	Strong brown, clayey sands some gravels.		
TP47-S1	31+009	Lt/5.00	0.03-1.00	-	-	-	100	96.0	87.6	82.2	71.5	59.3	41.7	34.4	33.1	29.2	18.3	10.9	A-2-6(0)	SC	1.99	8.6	2.12	8.5	1.92	2.04	2.13	0.24	47	44	39	94	Yellowish red, clayey sands some gravels.		
TP48-S1	32+000	Rt/8.00	0.00-1.00	-	-	100	98.1	91.6	82.7	77.3	66.1	58.2	50.2	41.4	39.2	29.7	19.3	10.4	A-6(1)	GC	1.61	14.9	2.04	9.5	1.88	1.98	2.06	0.65	46	42	36	79	Brownish yellow, clayey gravels.		
TP49-S1	33+000	Lt/8.00	0.00-1.00	-	-	100	98.5	96.3	92.6	90.5	84.3	76.5	63.8	46.4	43.3	17.6	10.1	7.5	A-4(0)	SC	1.66	10.7	2.12	7.5	1.94	2.05	2.13	1.01	25	21	15	78	Grayish brown, clayey sands little gravels.		
TP50-S1	34+010	Rt/5.50	0.03-1.00	-	-	-	100	94.6	86.1	78.4	63.4	50.1	42.0	34.4	32.4	31.8	19.0	12.8	A-6(2)	GC	2.01	8.1	2.04	10.0	1.88	1.97	2.06	1.01	55	45	30	99	Yellowish red, clayey gravels.		
TP51-S1	35+000	Lt/5+50	0.03-1.00	-	-	100	93.2	89.1	76.9	68.4	54.0	43.6	29.6	20.5	18.2	18.7	10.0	8.7	A-2-4(0)	GC	1.99	7.2	2.22	6.4	2.01	2.13	2.23	0.22	76	69	59	90	Yellowish red, clayey gravels.		
TP52-S1	36+015	Rt/8.00	0.15-1.00	-	-	-	100	96.5	89.6	85.0	80.0	76.7	73.2	57.1	44.0	18.9	11.7	7.2	A-4(0)	SC	1.68	15.3	2.06	9.1	1.87	1.98	2.07	0.77	40	35	25	82	Grayish brown, clayey sands some gravels.		
TP53-S1	37+010	Lt/7.50	0.00-1.00	-	-	100	95.3	89.8	79.7	73.3	66.0	60.7	50.6	36.1	32.5	21.9	14.5	7.4	A-2-4(0)	GC	1.76	9.6	2.09	9.0	1.96	2.03	2.10	0.24	68	60	50	84	Brownish yellow, clayey gravels.		
TP54-S1	38+025	Rt/5.00	0.18-1.00	-	-	100	92.4	83.0	71.7	65.5	54.7	46.2	38.8	30.4	28.2	27.3	20.2	7.1	A-2-4(0)	GC	2.00	8.1	2.08	9.3	1.92	2.01	2.09	0.21	68	52	28	96	Strong brown, clayey gravels.		

<b>Remark :</b>	<b>Legend :</b>	<b>LL</b> Liquid Limit	<b>OMC</b> Optimum Moisture Content
		<b>PL</b> Plastic Limit	<b>MDD</b> Maximum Dry Density
		<b>PI</b> Plasticity Index	<b>MC</b> Moisture content
		<b>FDD</b> Field Dry density	<b>DD</b> Dry Density

**Table B-4 Summary of Laboratory Test Results for Test Pits**

ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT	LAO TRANSPORT ENGINEERING CONSULTANT  (LTEC)	SUMMARY OF LABORATORY TEST RESULTS  FOR TEST PIT	DATE : 21/08/2017
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SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )

Sample No.	Sample Location			Sieve Analysis Test (AASHTO T88)													Atterberg Tests			Soil Classification		Field Dry Density		Compaction Tests		Laboratory Soil Strength Tests										FDD	Soil Description
	Station	Side Ways	Depth	Percent Passing Sieve (%)													AASHTO T89, T90			AASHTO M-145	USCS	DD	MC	MDD	OMC	Strength Tests											
				76.2	50.8	38.1	25.4	19.1	12.7	9.5	4.76	2.00	0.420	0.149	0.075	LL	PL	PI	CBR AASHTO T193																		
	mm	mm	mm																mm	mm	mm	mm	mm	mm	mm	mm	mm	%	%	%	10 blows	30 blows	65 blows	Swell	CBR at percent of MDD		
TP55-S1	39+000	Lt/4.50	0.19-1.00	-	-	100	89.0	80.6	68.7	62.8	51.5	41.2	32.0	24.0	22.0	23.5	16.2	7.3	A-2-4(0)	GC	1.92	7.5	2.17	7.7	2.03	2.11	2.18	0.16	56	47	35	88	Yellowish red, clayey sands little gravels.				
TP56-S1	40+000	Rt/10.00	0.00-1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TP57-S1	41+013	Lt/7.00	0.00-1.00	-	-	100	97.8	96.1	92.0	90.8	88.0	84.1	72.2	37.6	31.0	N	-	P	A-2-4(0)	SM	1.63	11.8	1.95	8.5	1.82	1.89	1.96	0.15	31	25	18	84	Drak redish brown, silty sands little gravels.				
TP58-S1	42+000	Rt/5.00	0.03-1.00	-	-	100	87.1	81.7	69.4	61.8	47.9	37.7	29.7	22.9	20.4	18.1	14.5	3.6	A-2-4(0)	GM	2.03	7.7	2.20	6.5	1.99	2.12	2.22	0.12	95	84	67	92	Yellowish red, silty gravels.				
TP59-S1	42+998	Lt/5.00	0.30-1.00	-	-	-	-	100	99.7	99.5	97.9	96.3	86.9	57.8	50.2	20.5	12.6	7.9	A-4(1)	CL	1.85	10.0	2.11	7.7	1.90	2.03	2.12	0.38	16	13	8	88	Grayish brown, silty clays trace gravels.				
TP60-S1	44+000	Rt/9.00	0.00-1.00	-	-	-	-	-	-	100	99.8	99.5	98.5	87.3	80.7	31.2	18.7	12.5	A-6(9)	CL	1.53	18.8	1.94	12.0	1.73	1.86	1.95	1.18	12	10	8	79	Brownish yellow, silty clays.				
TP61-S1	45+000	Rt/7.50	0.00-1.00	-	-	-	100	95.8	92.3	88.3	80.6	74.7	71.3	67.0	65.2	47.8	26.1	21.7	A-7-6(13)	CL	1.48	24.0	1.93	13.9	1.78	1.87	1.94	6.33	11	9	5	77	Brownish yellow, silty clays little laterite.				
TP62-S1	46+000	Rt/5.00	0.19-1.00	-	-	100	87.5	84.4	72.7	65.2	52.7	45.5	36.6	23.7	20.0	18.8	15.3	3.5	A-2-4(0)	GM	1.47	44.9	2.16	7.8	2.04	2.10	2.18	0.22	95	81	59	68	Yellowish red, silty gravels.				
TP63-S1	46+995	Lt/5.00	0.03-1.00	-	-	100	92.0	84.6	76.1	68.8	54.2	43.3	34.9	28.7	27.4	32.8	22.4	10.4	A-2-6(0)	GC	1.91	11.5	2.10	9.1	1.91	2.02	2.12	0.28	28	25	18	91	Yellowish red, clayey gravels.				
TP64-S1	48+000	Rt/8.50	0.00-1.00	-	-	100	93.8	92.2	87.0	80.3	60.4	47.7	41.5	37.2	35.2	31.2	20.2	11.0	A-6(0)	GC	1.81	15.3	2.07	12.4	1.87	1.99	2.10	3.46	34	29	22	87	Yellowish red, clayey gravels.				
TP65-S1	49+000	Lt/8.00	0.00-1.00	-	-	-	-	-	100	99.6	99.4	98.1	87.2	57.3	48.8	18.4	10.7	7.7	A-4(0)	SC	1.58	14.3	2.10	8.5	1.94	2.02	2.12	0.15	42	38	31	75	Brownish yellow, clayey sands.				
TP66-S1	50+000	Rt/5.00	0.21-1.00	-	-	100	96.5	93.1	85.6	82.3	69.1	56.4	48.8	35.6	31.3	19.4	11.8	7.6	A-2-4(0)	SC	1.95	9.8	2.17	9.2	1.98	2.09	2.18	0.25	44	41	36	90	Yellowish red, clayey sands some laterites.				
TP67-S1	51+000	Lt/5.00	0.03-1.00	100	98.7	95.6	86.5	84.0	73.5	66.6	50.9	38.5	32.5	28.9	27.8	39.0	24.8	14.2	A-2-6(0)	GC	1.90	13.6	2.03	11.7	1.83	1.95	2.05	0.96	73	68	58	94	Strong brown, clayey gravels.				
TP68-S1	52+000	Rt/8.00	0.00-1.00	-	-	-	100	98.3	98.3	96.5	95.3	94.3	92.9	90.7	89.1	25.2	16.7	8.5	A-4(6)	CL	1.56	16.8	2.04	10.8	1.85	1.96	2.05	1.50	20	18	15	76	Brownish yellow, silty clays trace laterites.				

<b>Remark :</b>	<b>Legend :</b>	<b>LL</b> Liquid Limit	<b>OMC</b> Optimum Moisture Content
		<b>PL</b> Plastic Limit	<b>MDD</b> Maximum Dry Density
		<b>PI</b> Plasticity Index	<b>MC</b> Moisture content
		<b>FDD</b> Field Dry density	<b>DD</b> Dry Density

Table B-5 Summary of Laboratory Test Results for Test Pits

<b>ROAD No. 13 NORTH IMPROVEMENT AND MAINTENANCE PROJECT</b>	<b>LAO TRANSPORT ENGINEERING CONSULTANT</b>  (LTEC)	<b>SUMMARY OF LABORATORY TEST RESULTS</b>  FOR TEST PIT	<b>DATE : 21/08/2017</b>
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SECTION: SIKEUTH JUNCTION - PHONHONG ( 58 KM )

Sample No.	Sample Location			Sieve Analysis Test (AASHTO T88)												Atterberg Tests			Soil Classification		Field Dry Density		Compaction Tests		Laboratory Soil Strength Tests									FDD	Soil Description			
	Station	Side Ways	Depth	Percent Passing Sieve (%)												AASHTO T89, T90			AASHTO M-145	USCS	DD	MC	MDD	OMC	Strength Tests													
				76.2	50.8	38.1	25.4	19.1	12.7	9.5	4.76	2.00	0.420	0.149	0.075	LL	PL	PI							10 blows	30 blows	65 blows	Swell	CBR at percent of MDD									
	Km	m	m	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	%	%	%	g/cm <sup>3</sup>	%	g/cm <sup>3</sup>	%	DD	DD	DD	%	100	98	95	%							
TP69-S1	53+000	Lt/8.00	0.00-1.00	-	-	-	-	-	100	99.5	95.8	92.6	90.6	89.8	89.5	34.1	21.5	12.6	A-6(11)	CL	1.45	23.5	1.93	12.7	1.77	1.85	1.94	1.38	15	12	8	75	Brownish yellow, silty clays trace laterites.					
TP70-S1	54+000	Rt/5.00	0.22-1.00	-	-	100	91.9	83.1	79.8	75.2	62.8	48.7	41.0	37.1	36.0	45.3	26.5	18.8	A-7-6(2)	GC	1.79	18.9	1.93	14.2	1.75	1.87	1.96	3.81	28	24	18	93	Yellowish red, clayey gravels.					
TP71-S1	54+980	Lt/5.00	0.03-1.00	-	-	100	91.6	85.4	77.5	71.1	59.6	47.6	39.3	33.9	32.8	37.6	22.8	14.8	A-2-6(0)	GC	1.92	11.3	2.05	11.8	1.84	1.96	2.06	1.57	60	58	54	94	Yellowish red, clayey gravels.					
TP72-S1	56+010	Rt/7.00	0.00-1.00	-	-	100	88.0	79.5	70.7	53.9	56.2	45.8	40.5	36.7	35.4	46.0	26.2	19.8	A-7-6(2)	GC	1.57	23.0	2.03	11.9	1.83	1.95	2.04	3.02	35	28	18	77	Brownish yellow, clayey gravels.					
TP73-S1	56+772.6	Rt/5.00	0.00-1.00	-	100	90.9	74.4	70.5	69.2	66.3	54.6	45.8	40.6	30.5	28.6	27.2	15.7	11.5	A-2-6(0)	GC	1.85	15.3	1.98	15.2	1.82	1.91	2.00	0.95	42	32	18	93	Yellowish red, clayey gravels.					
TP74-S1	56+772.6	Lt/8.00	0.28-1.00	-	-	100	93.9	90.4	86.0	79.9	66.4	52.3	41.4	36.3	35.1	37.5	22.1	15.4	A-6(1)	GC	1.81	12.4	2.15	11.5	1.97	2.08	2.16	1.09	42	31	18	84	Yellowish red, clayey gravels.					

**Remark :**

**Legend :**

LL	Liquid Limit	OMC	Optimum Moisture Content
PL	Plastic Limit	MDD	Maximum Dry Density
PI	Plasticity Index	MC	Moisture content
FDD	Field Dry density	DD	Dry Density

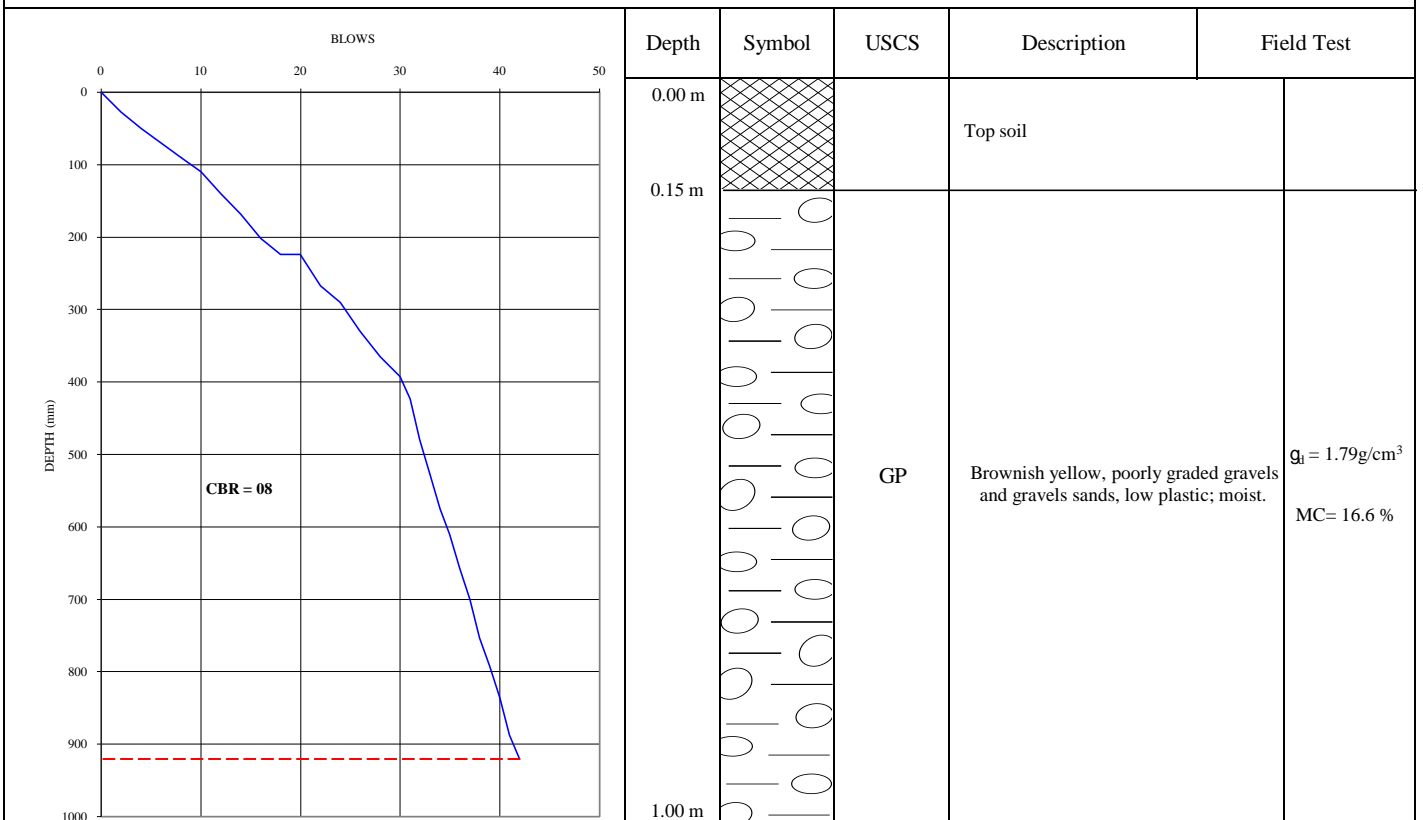
**Table B-6 Summary of Laboratory Test Results for Test Pits**



Location: Km 0+000, Lt/8.40 m

Depth: 0.00m - 1.00 m

Date : 02/08/2017



DCP Test No. 01

Test Pit No. 01

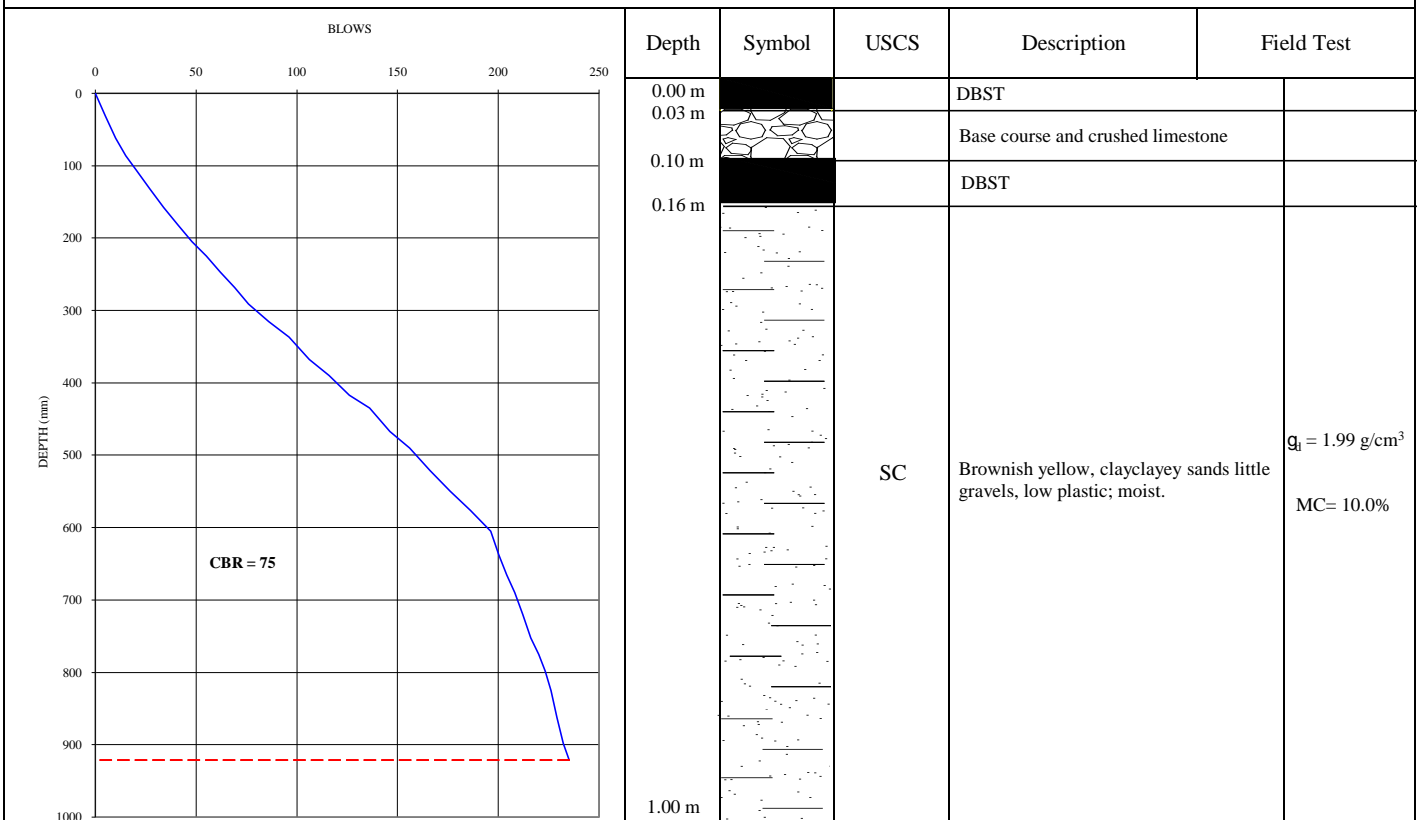
Figure B-1 DCP Profile and Test Pit Log



Location: Km 0+037, Rt/4.50m

Depth: 0.00 m - 1.00 m

Date : 02/08/2017



DCP Test No. 02

Test Pit No. 02

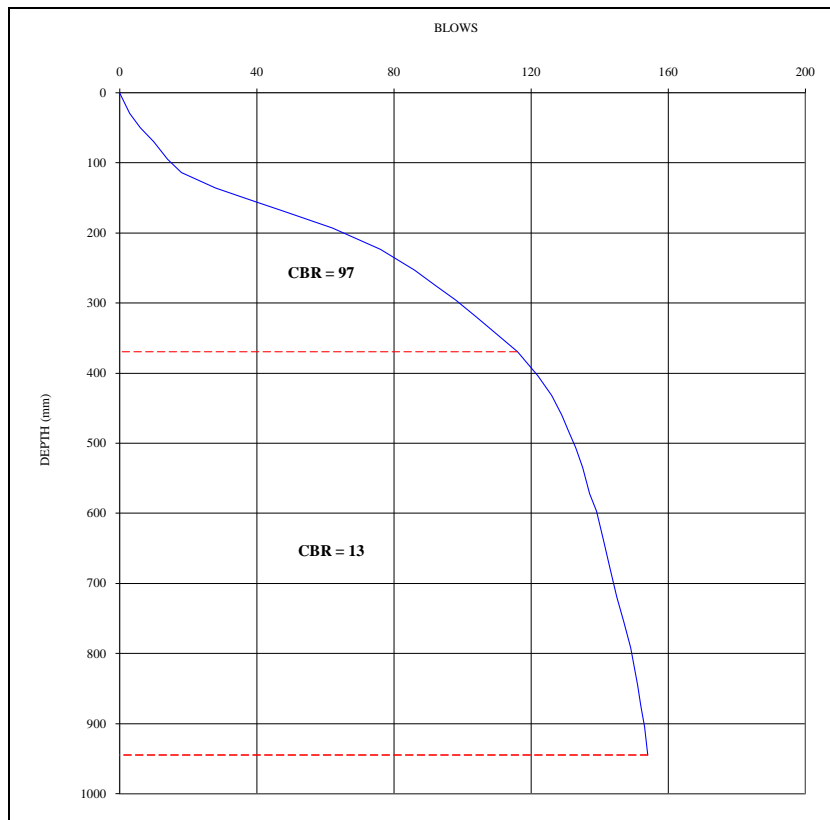
Figure B-2 DCP Profile and Test Pit Log



Location: Km 0+250, Rt/4.50 m

Depth: 0.00 m - 1.00 m

Date : 02/08/2017



**DCP Test No. 03**

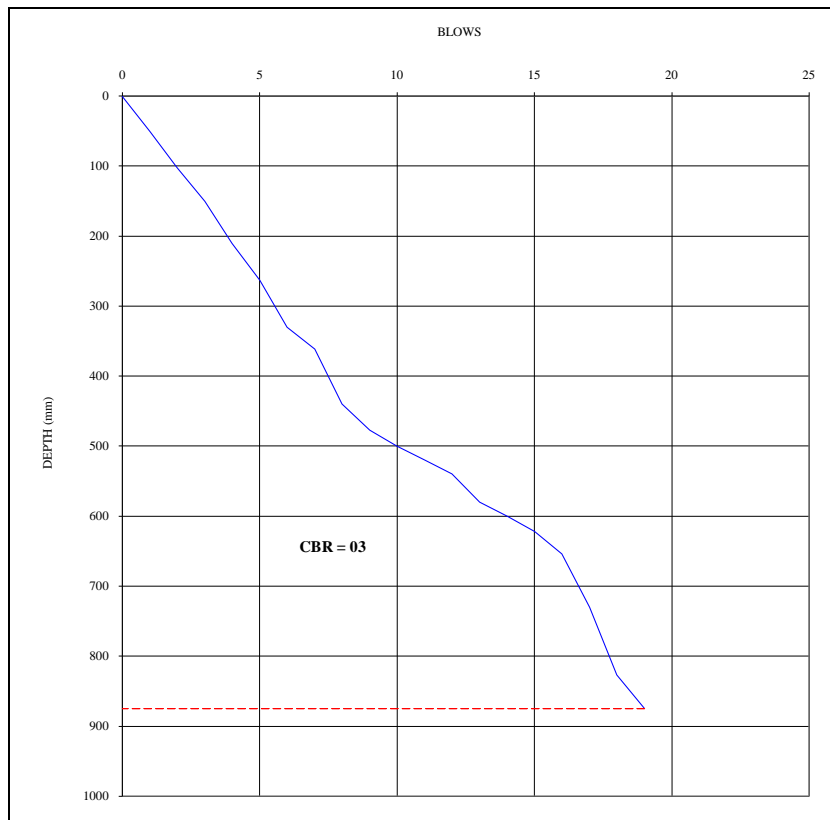
**Figure B-3 DCP Profile**



Location: Km 0+500, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 02/08/2017



**DCP Test No. 04**

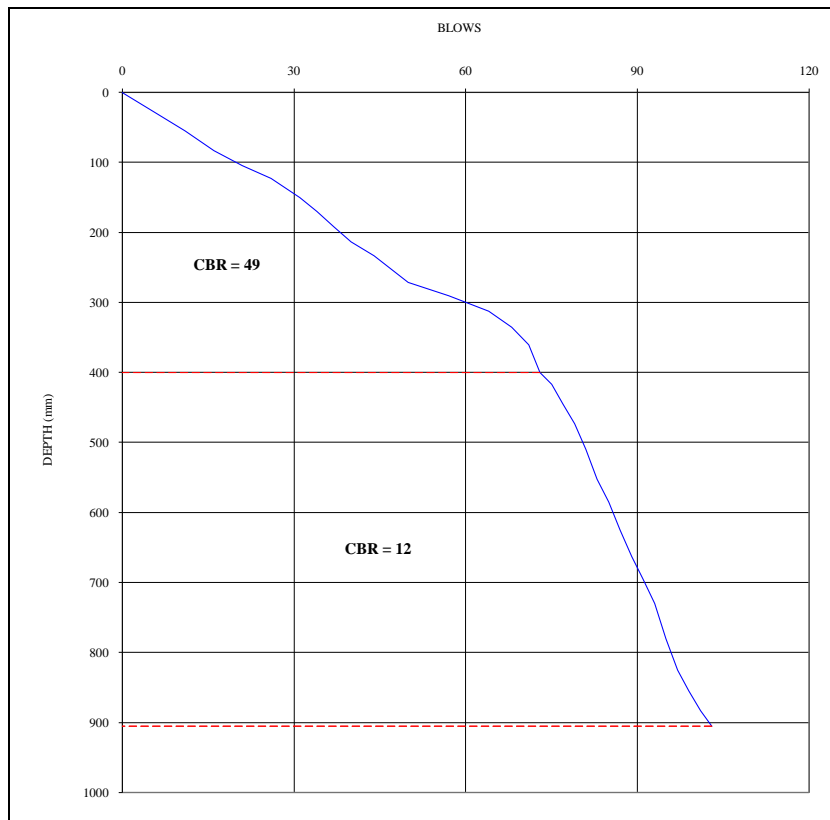
**Figure B-4 DCP Profile**



Location: Km 0+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 02/08/2017



DCP Test No. 05

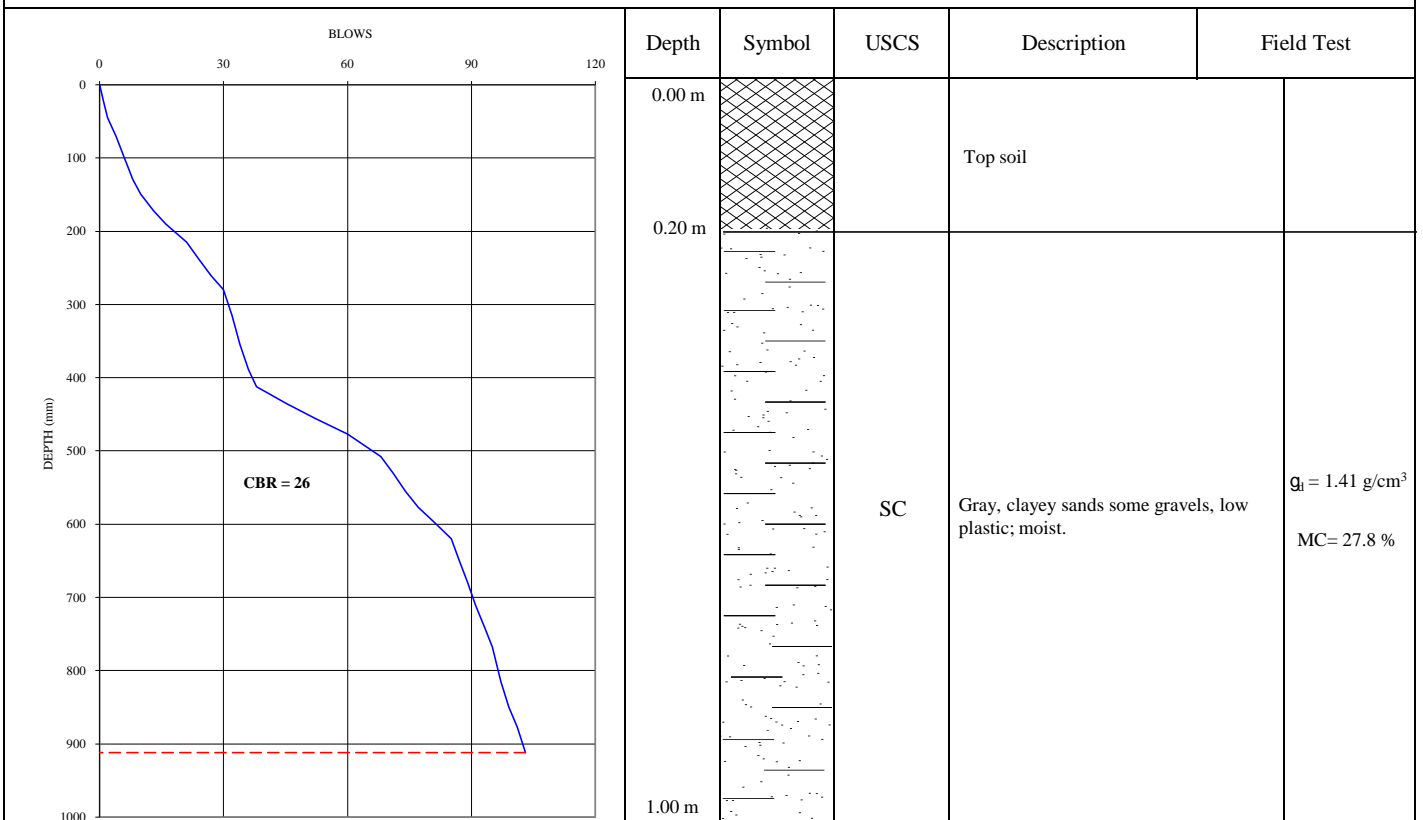
Figure B-5 DCP Profile



Location: Km 1+000, Lt/10.30 m

Depth: 0.00m - 1.00 m

Date : 02/08/2017



DCP Test No. 06

Test Pit No. 03

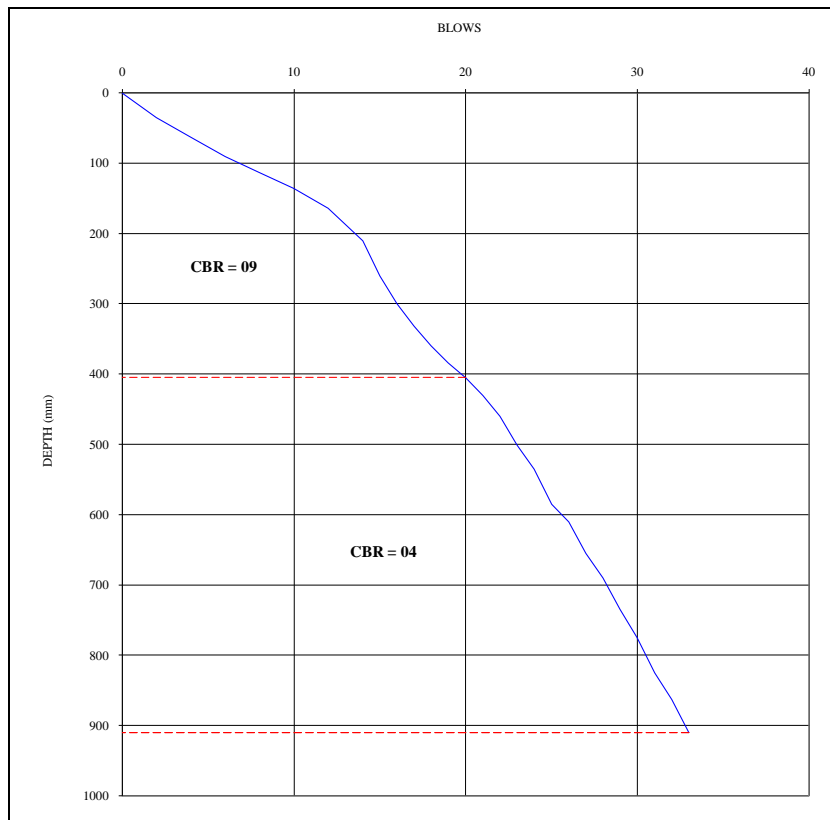
Figure B-6 DCP Profile and Test Pit Log



Location: Km 1+250, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 02/08/2017



DCP Test No. 07

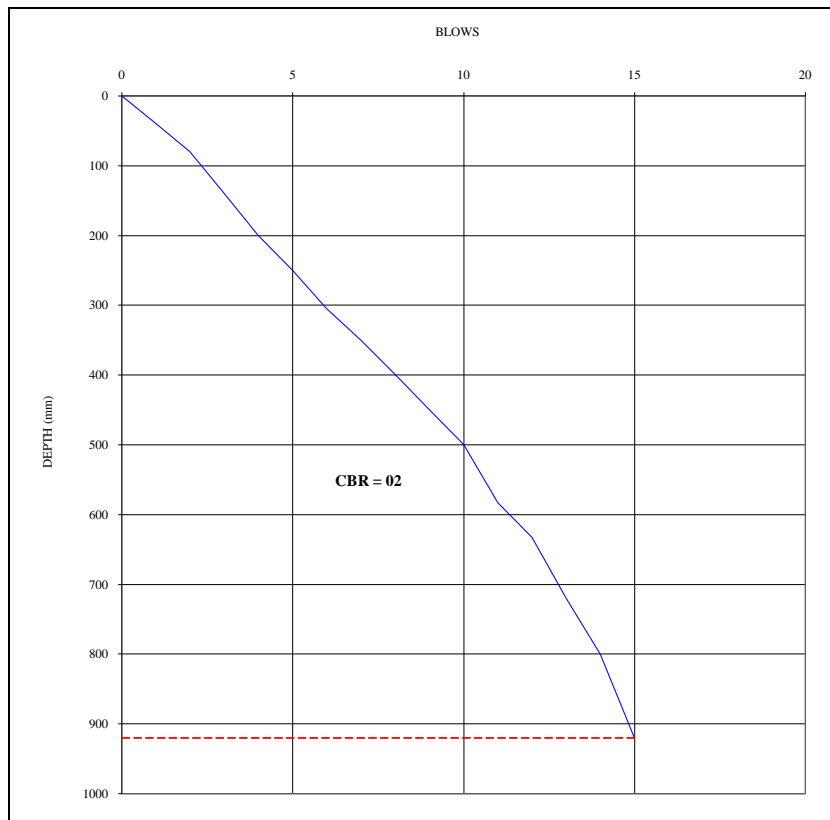
Figure B-7 DCP Profile



Location: Km 1+525, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 02/08/2017



**DCP Test No. 08**

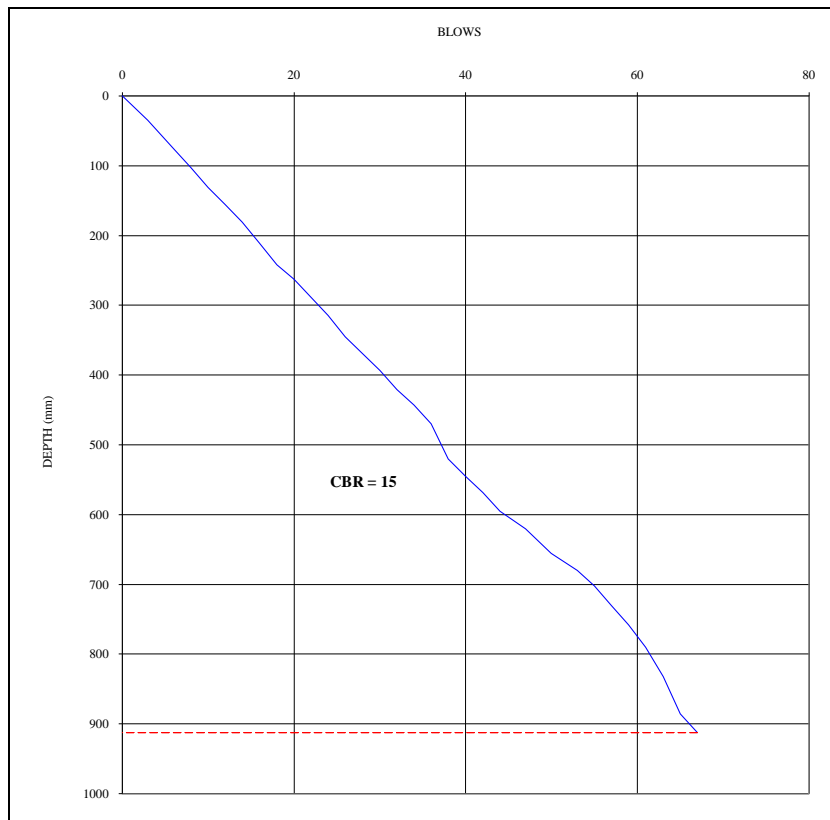
**Figure B-8 DCP Profile**



Location: Km 1+750, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 02/08/2017



**DCP Test No. 09**

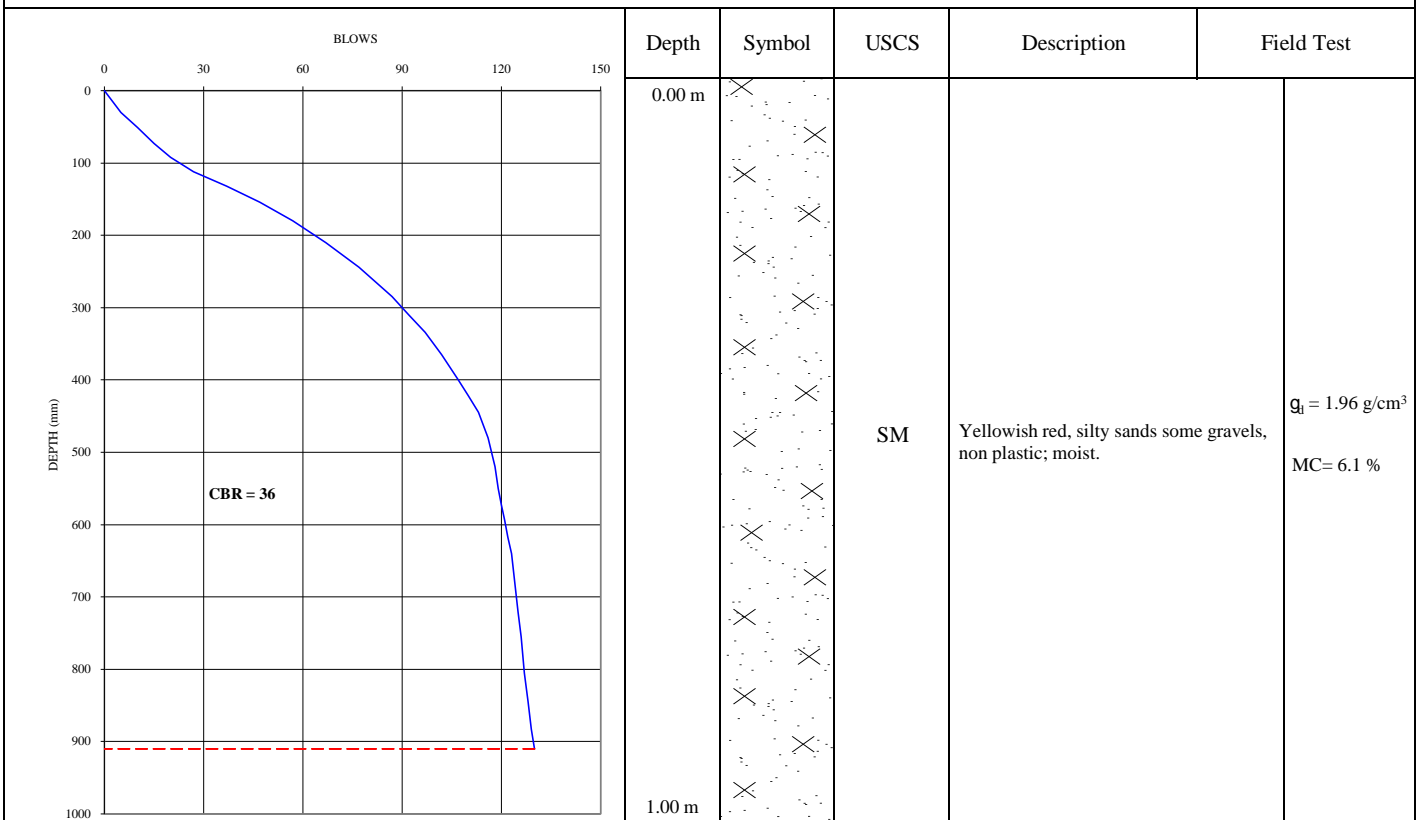
**Figure B-9 DCP Profile**



Location: Km 2+000, Rt/6.00 m

Depth: 0.00m - 1.00 m

Date : 02/08/2017



DCP Test No. 10

Test Pit No. 04

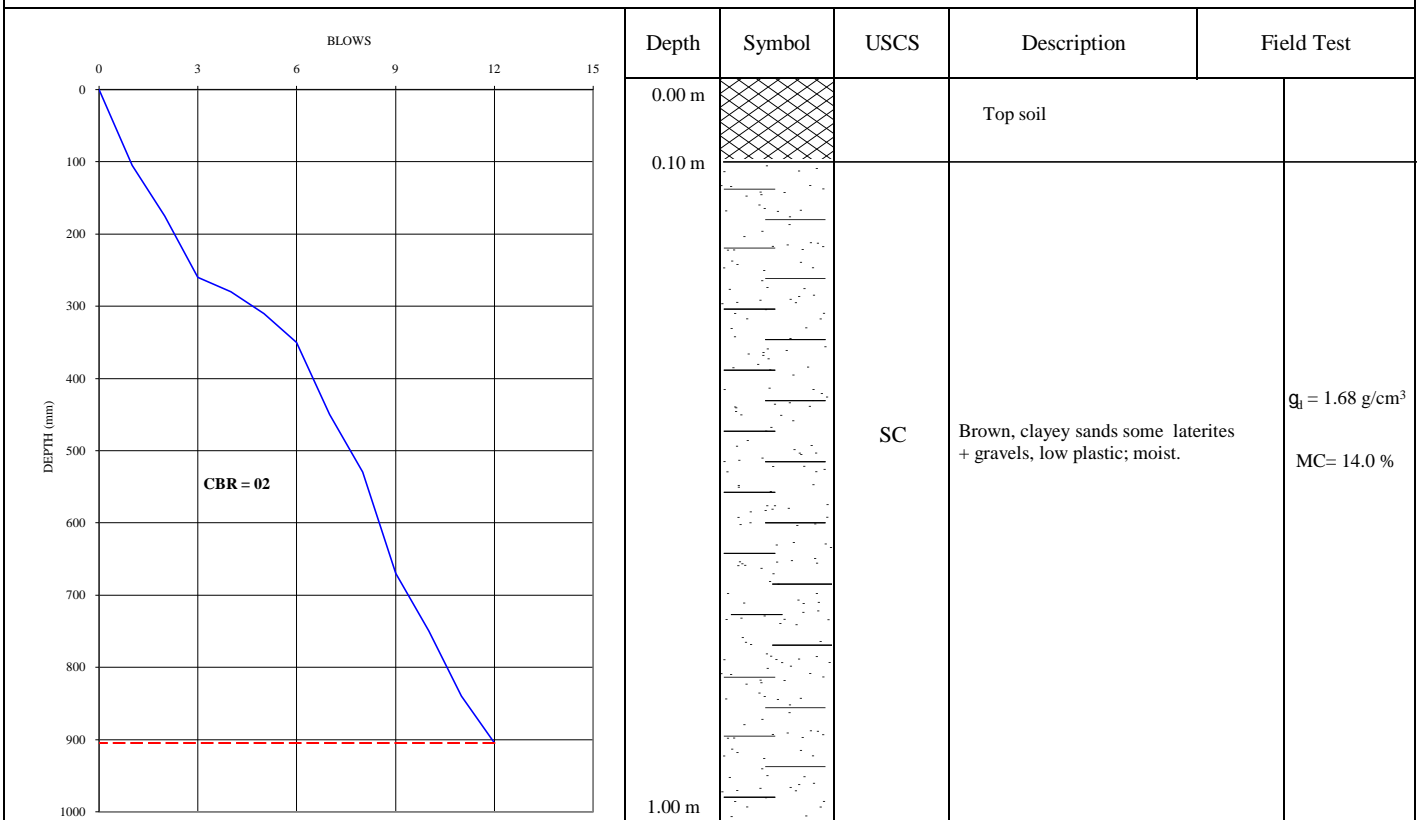
Figure B-10 DCP Profile and Test Pit Log



Location: Km 2+000, Lt/8.20 m

Depth: 0.00m - 1.00 m

Date : 03/08/2017



DCP Test No. 11

Test Pit No. 05

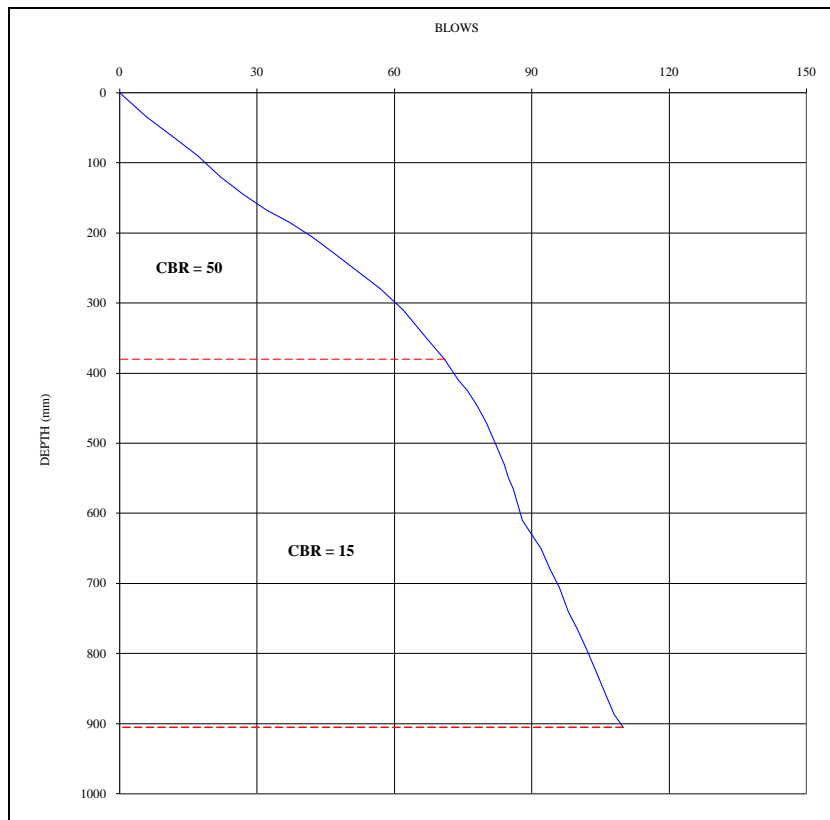
Figure B-11 DCP Profile and Test Pit Log



Location: Km 2+250, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



DCP Test No12

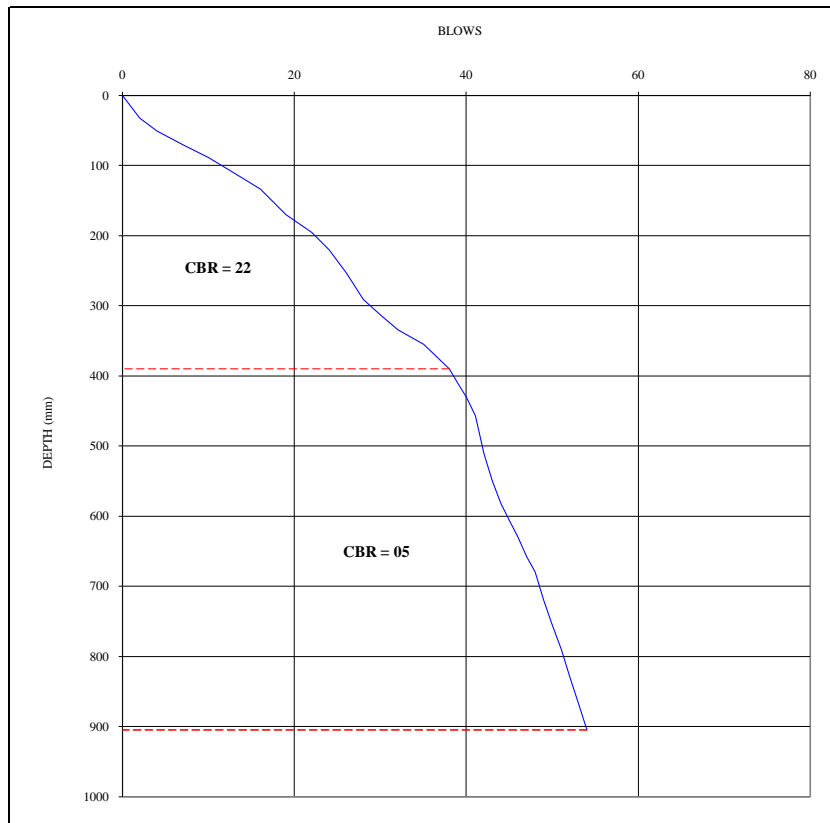
Figure B-12 DCP Profile



Location: Km 2+500, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



DCP Test No. 13

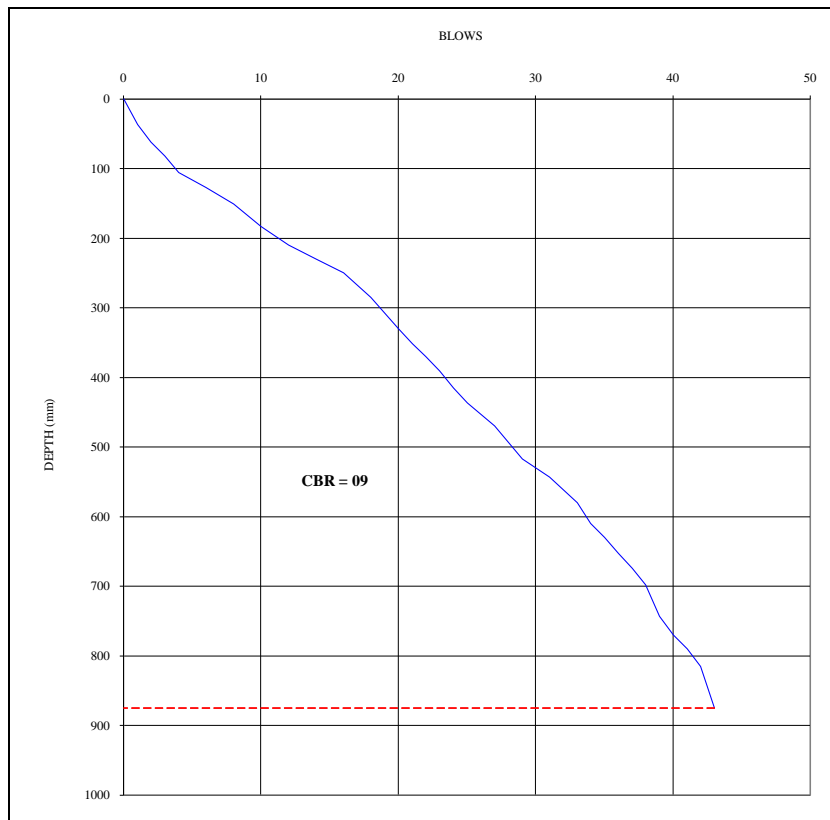
Figure B-13 DCP Profile



Location: Km 2+725, Rt/6.50 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 14**

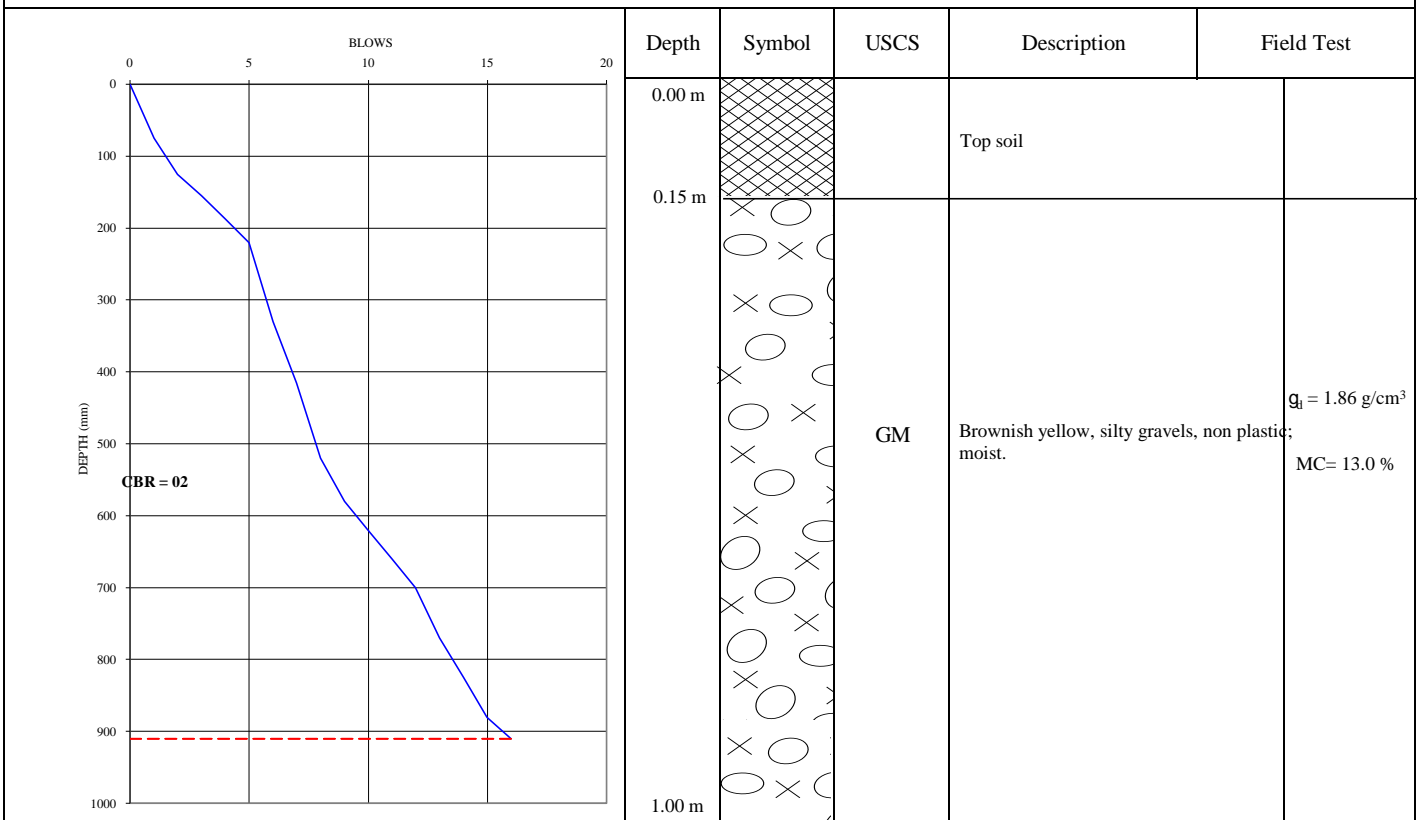
**Figure B-14 DCP Profile**



Location: Km 3+000, Lt/9.00 m

Depth: 0.00m - 1.00 m

Date : 02/08/2017



DCP Test No. 15

Test Pit No. 06

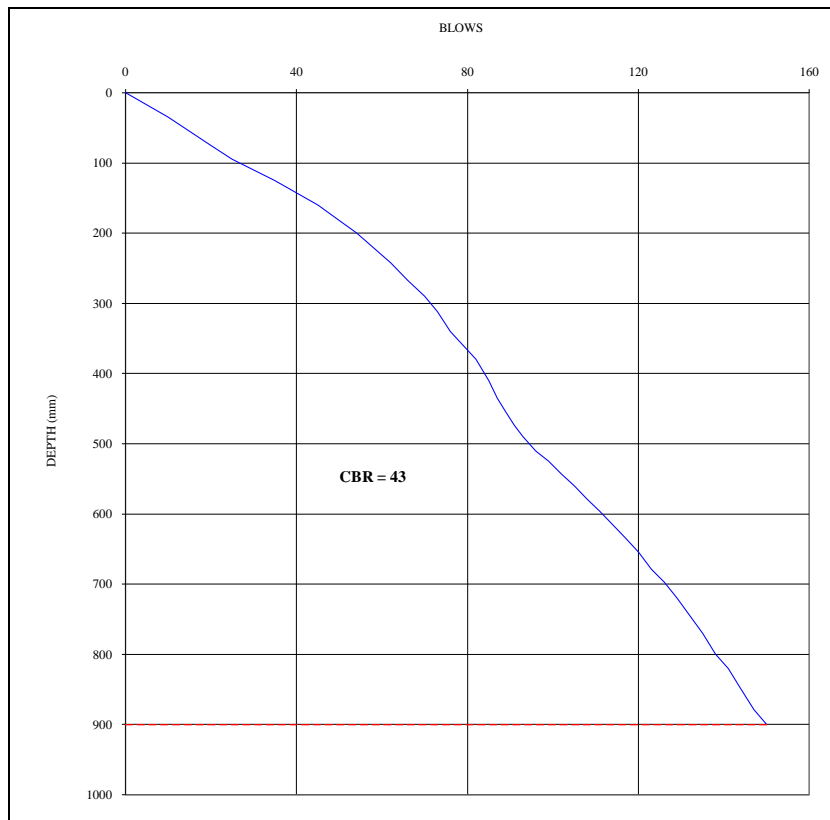
Figure B-15 DCP Profile and Test Pit Log



Location: Km 3+250, Rt/6.60 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 16**

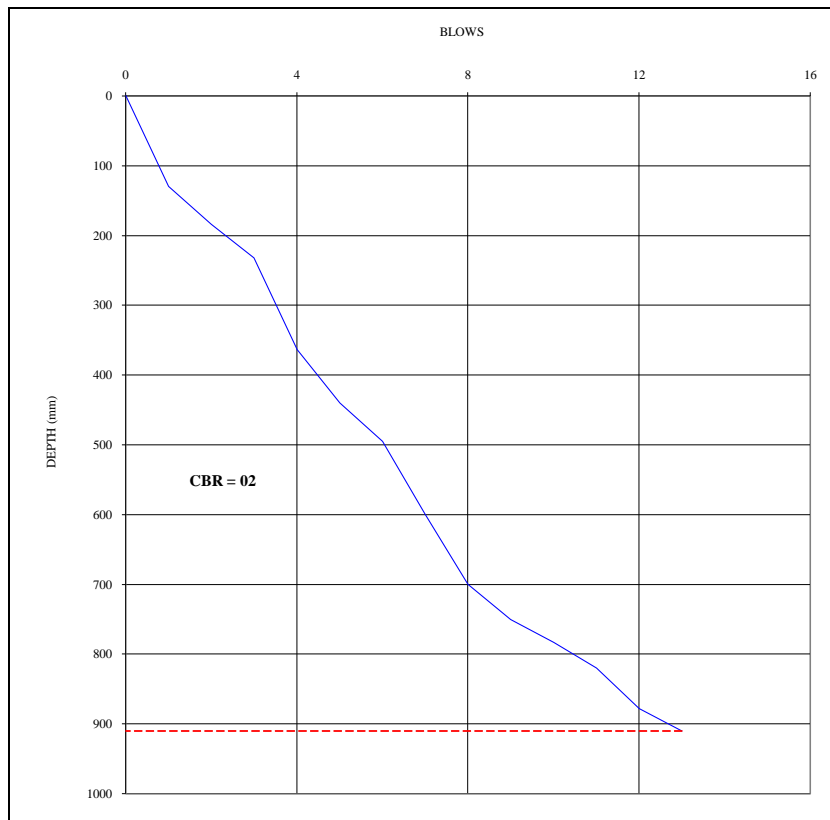
**Figure B-16 DCP Profile**



Location: Km 3+490, Lt/8.80 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 17**

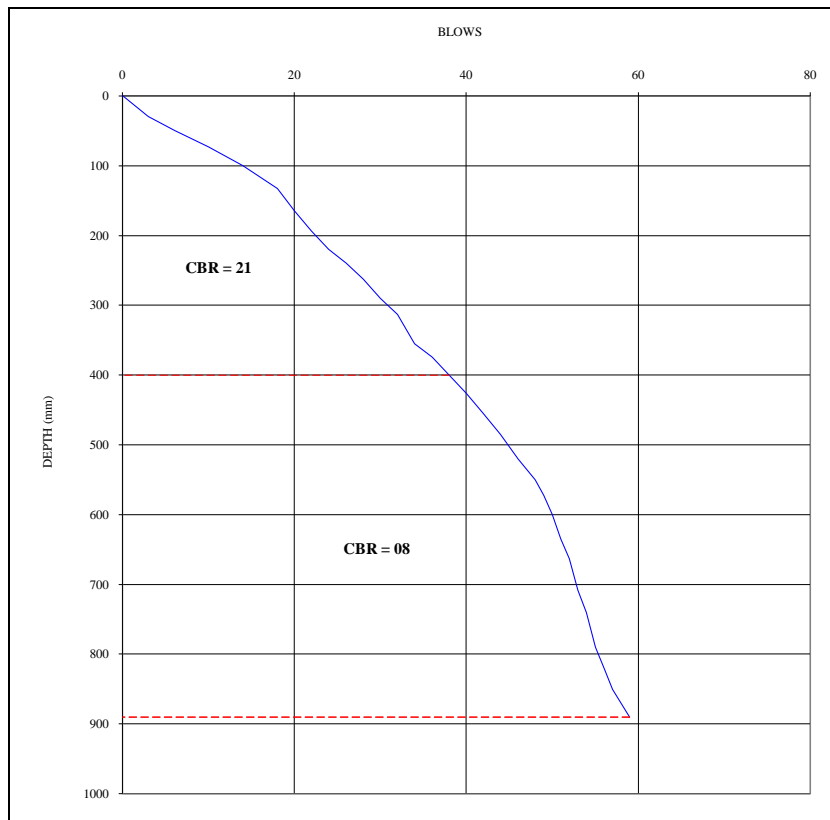
**Figure B-17 DCP Profile**



Location: Km 3+750, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 18**

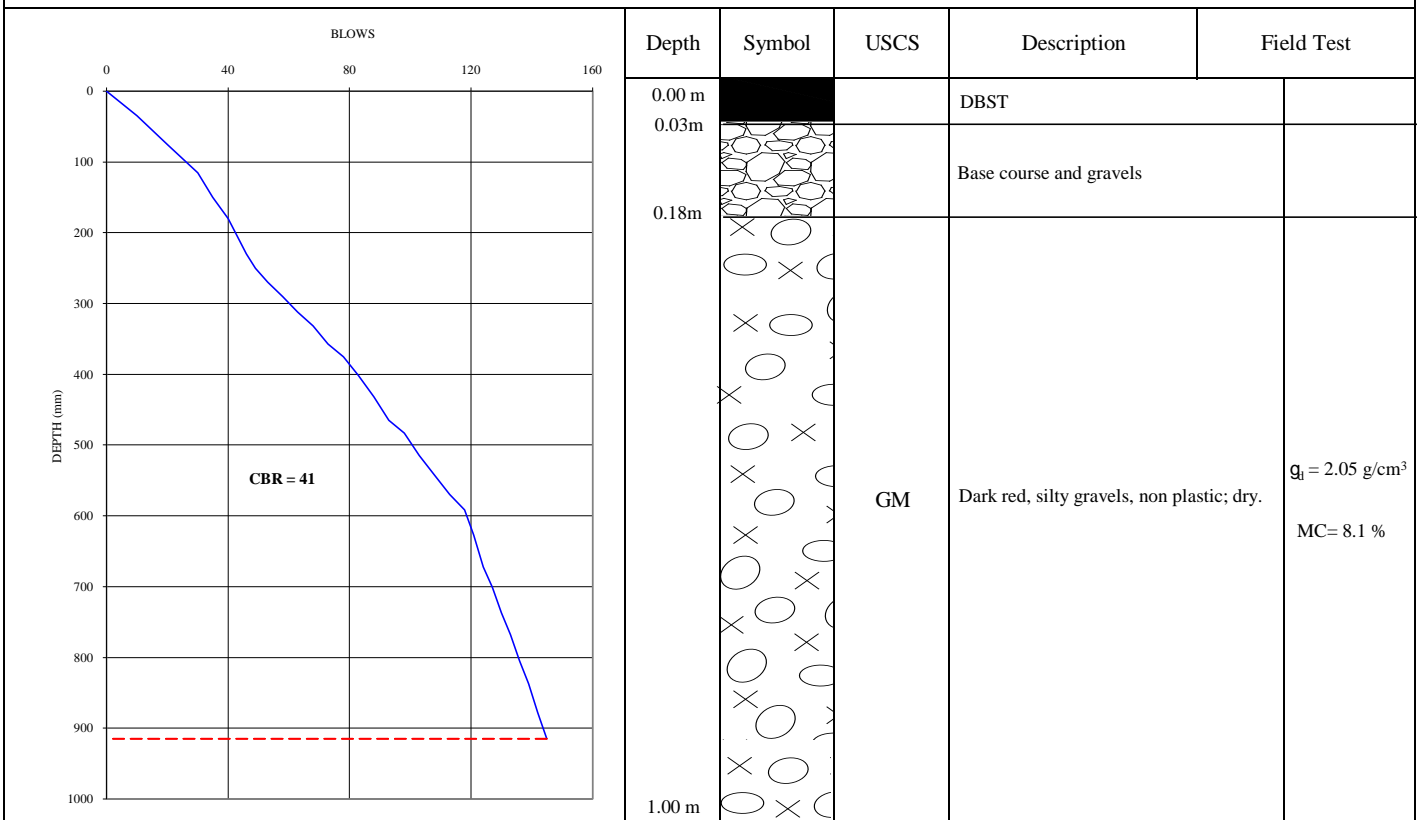
**Figure B-18 DCP Profile**



Location: Km 3+992, Rt/5.50 m

Depth: 0.00m - 1.00 m

Date : 03/08/2017



DCP Test No. 19

Test Pit No. 07

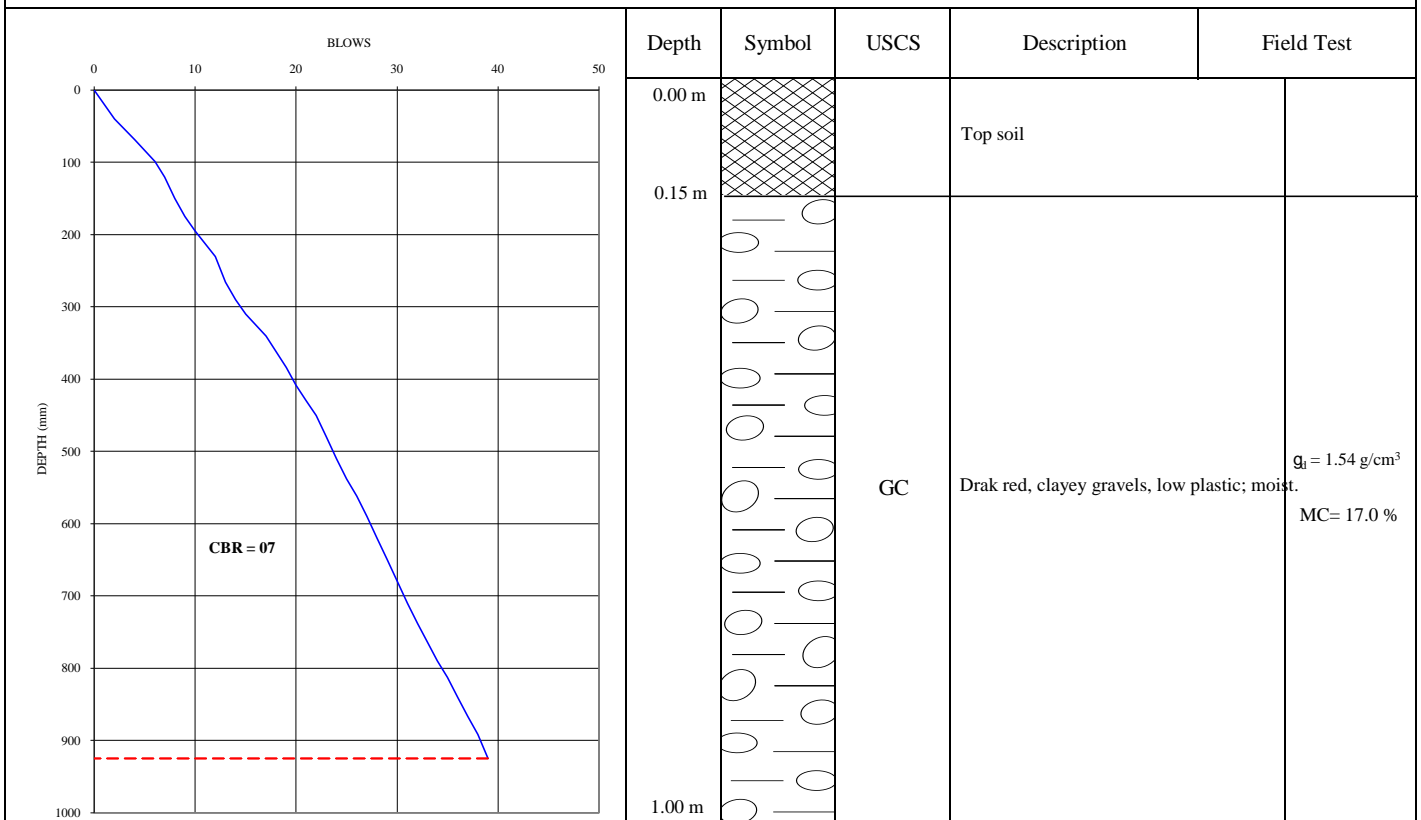
Figure B-19 DCP Profile and Test Pit Log



Location: Km 4+008, Lt/8.00 m

Depth: 0.00m - 1.00 m

Date : 03/08/2017



DCP Test No. 20

Test Pit No. 08

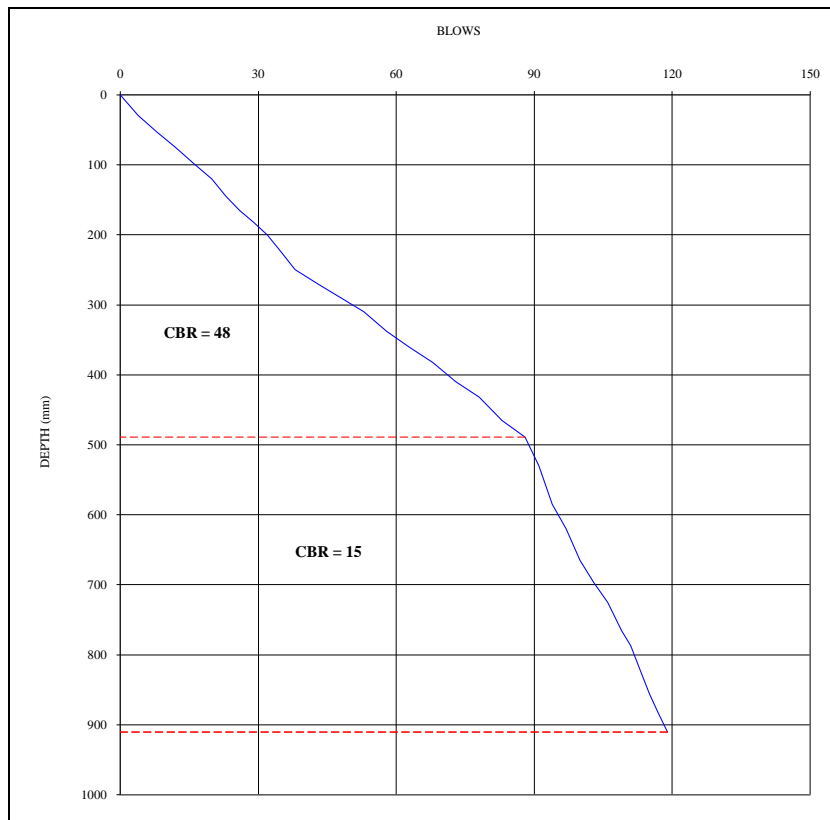
Figure B-20 DCP Profile and Test Pit Log



Location: Km 4+250, Rt/7.60 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 21**

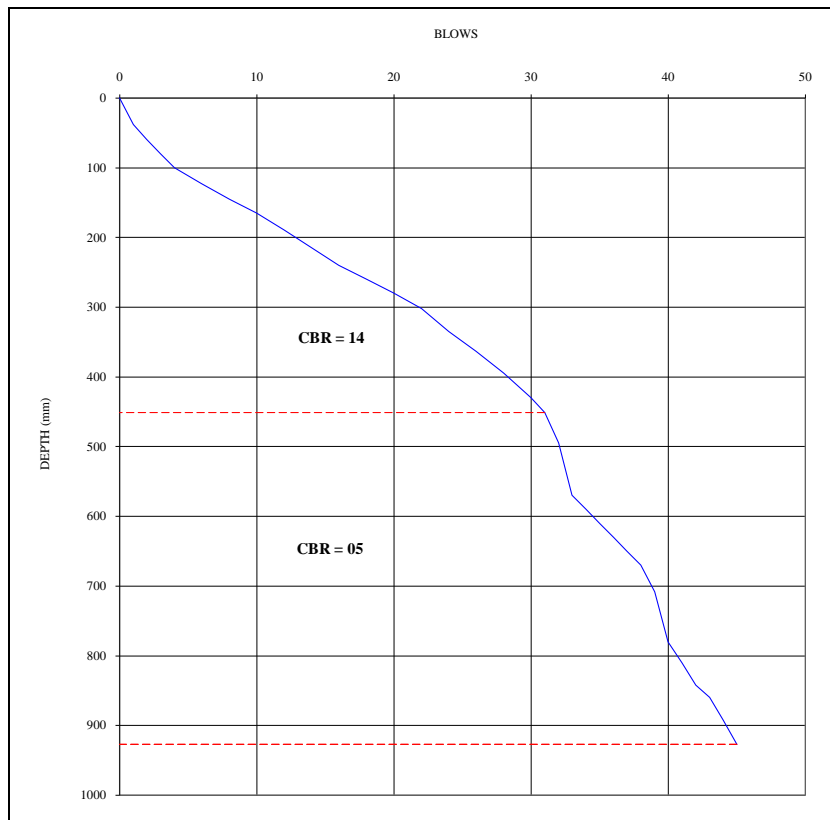
**Figure B-21 DCP Profile**



Location: Km 4+515, Lt/14.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



DCP Test No. 22

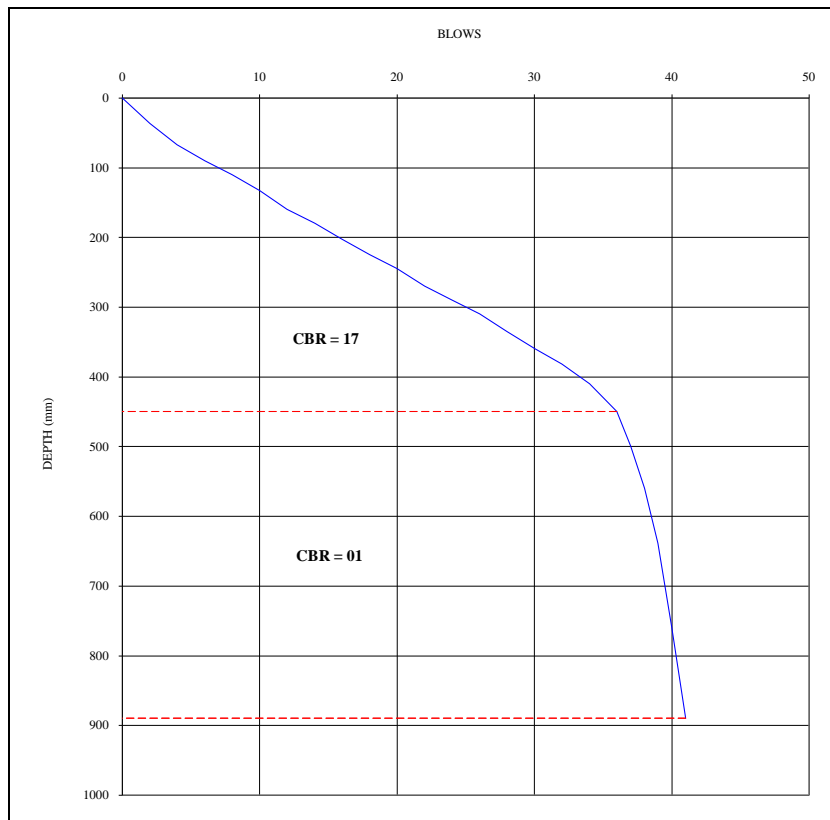
Figure B-22 DCP Profile



Location: Km 4+750, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 23**

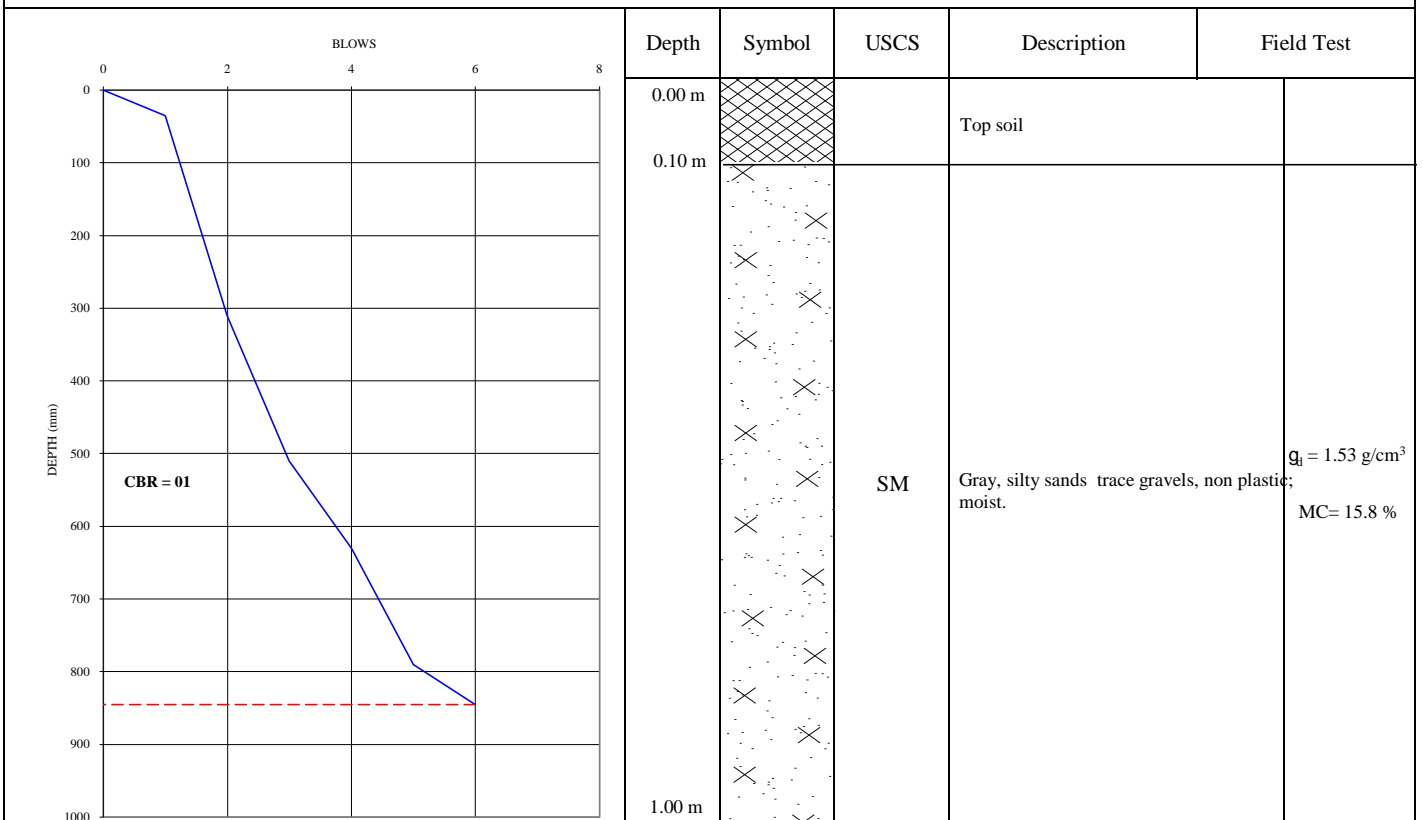
**Figure B-23 DCP Profile**



Location: Km 5+000, Lt/7.50 m

Depth: 0.00m - 1.00 m

Date : 03/08/2017



DCP Test No. 24

Test Pit No. 09

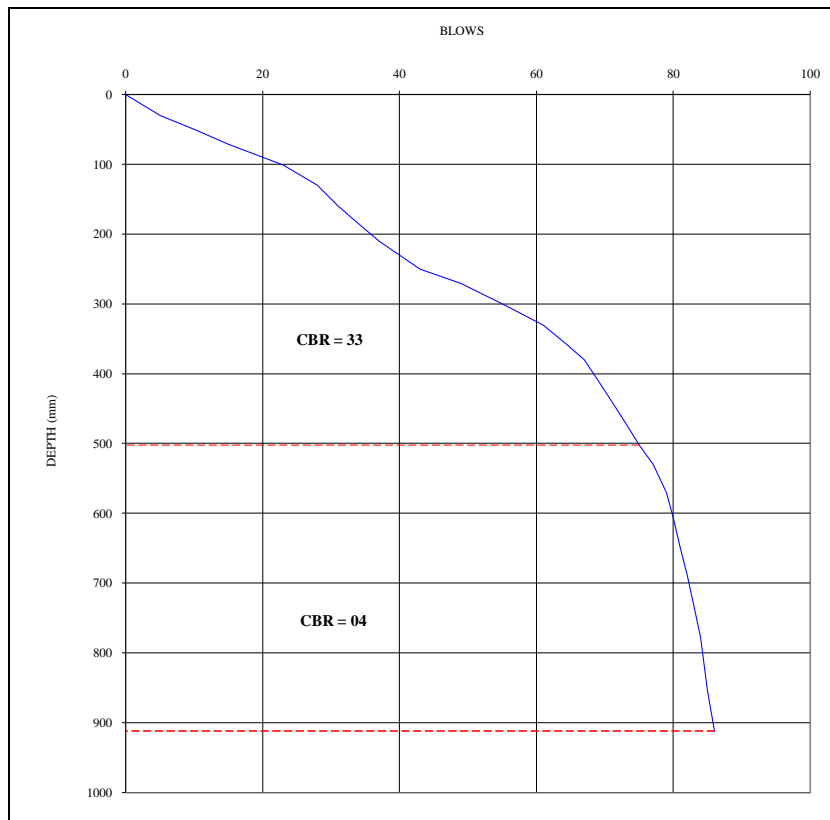
Figure B-24 DCP Profile and Test Pit Log



Location: Km 5+250, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 25**

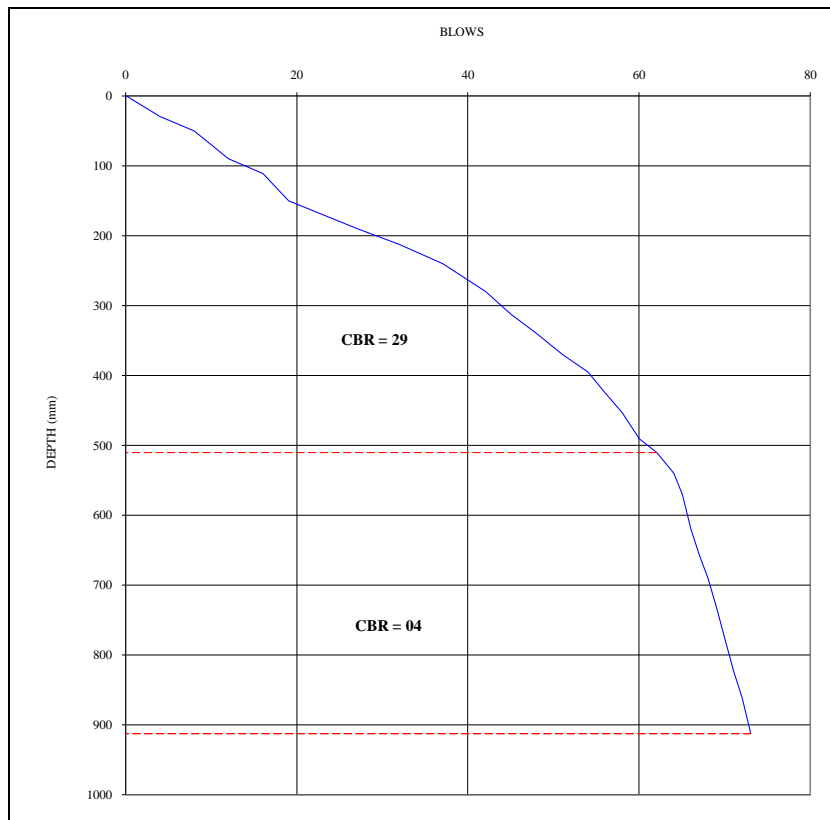
**Figure B-25 DCP Profile**



Location: Km 5+500, Lt/9.20 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 26**

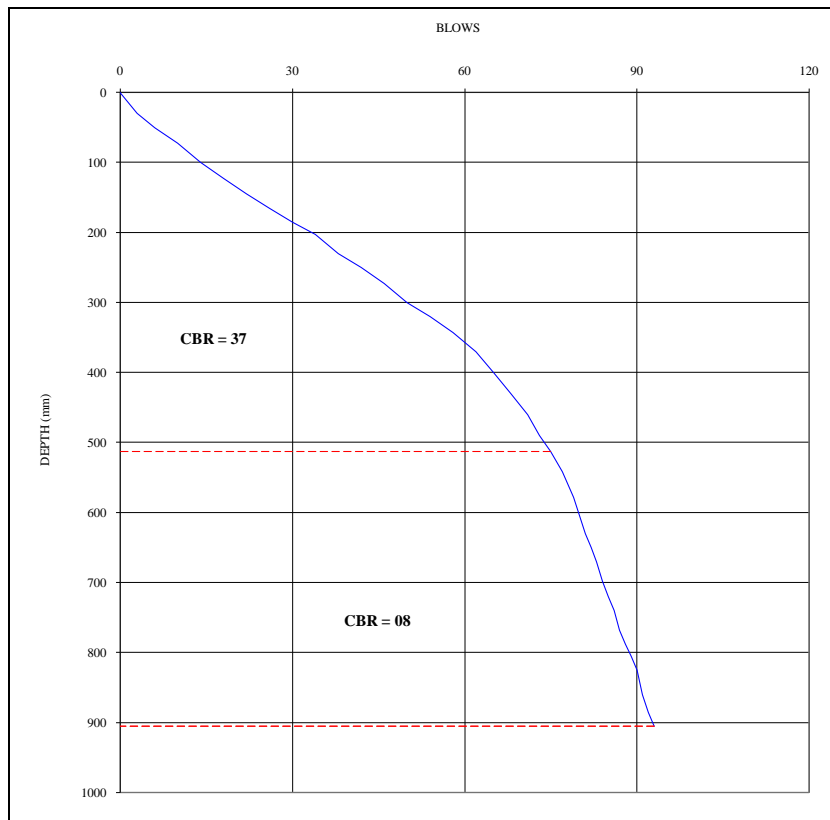
**Figure B-26 DCP Profile**



Location: Km 5+750, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 27**

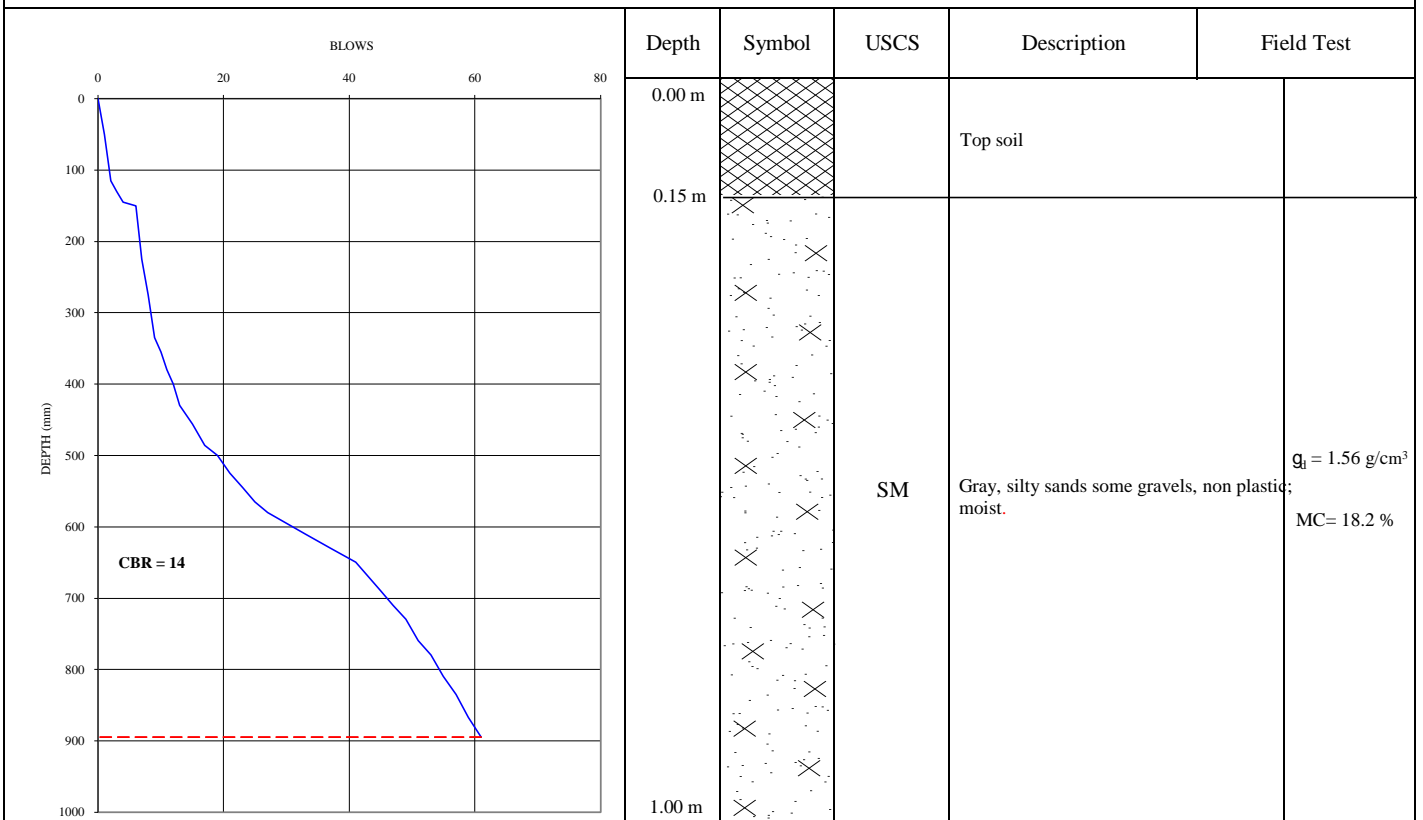
**Figure B-27 DCP Profile**



Location: Km 6+000, Lt/6.00 m

Depth: 0.00m - 1.00 m

Date : 03/08/2017



DCP Test No. 28

Test Pit No. 10

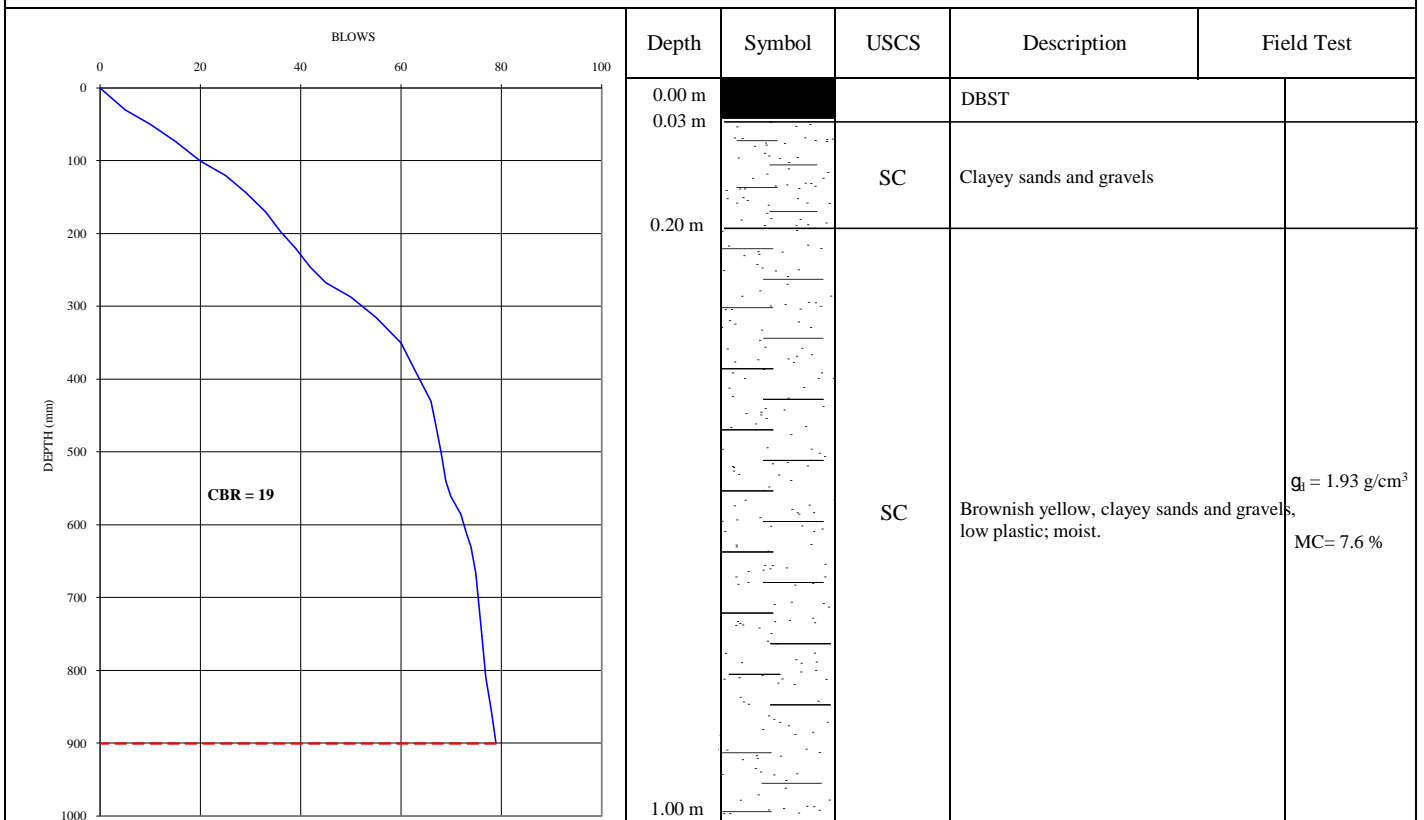
Figure B-28 DCP Profile and Test Pit Log



Location: Km 6+000, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 04/08/2017



DCP Test No. 29

Test Pit No. 11

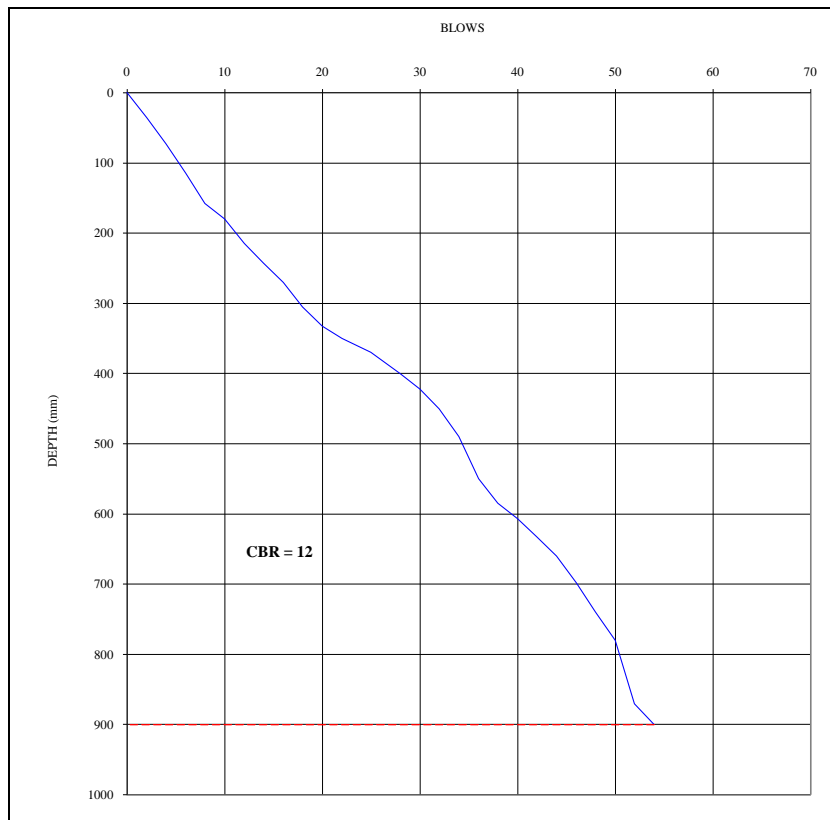
Figure B-29 DCP Profile and Test Pit Log



Location: Km 6+250, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 30**

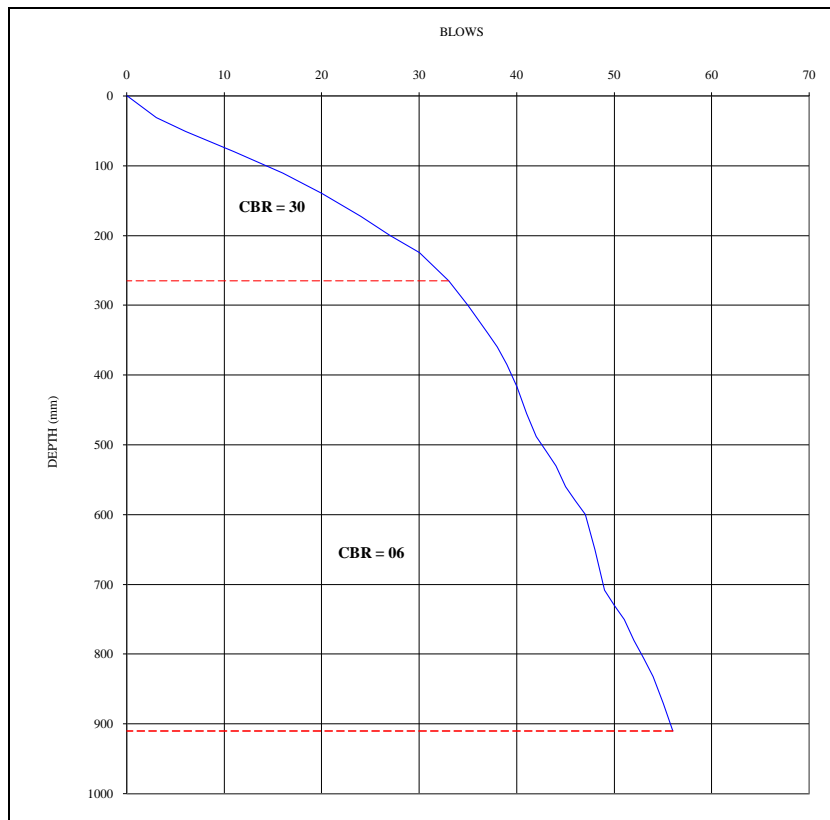
**Figure B-30 DCP Profile**



Location: Km 6+500, Rt/6.50 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 31**

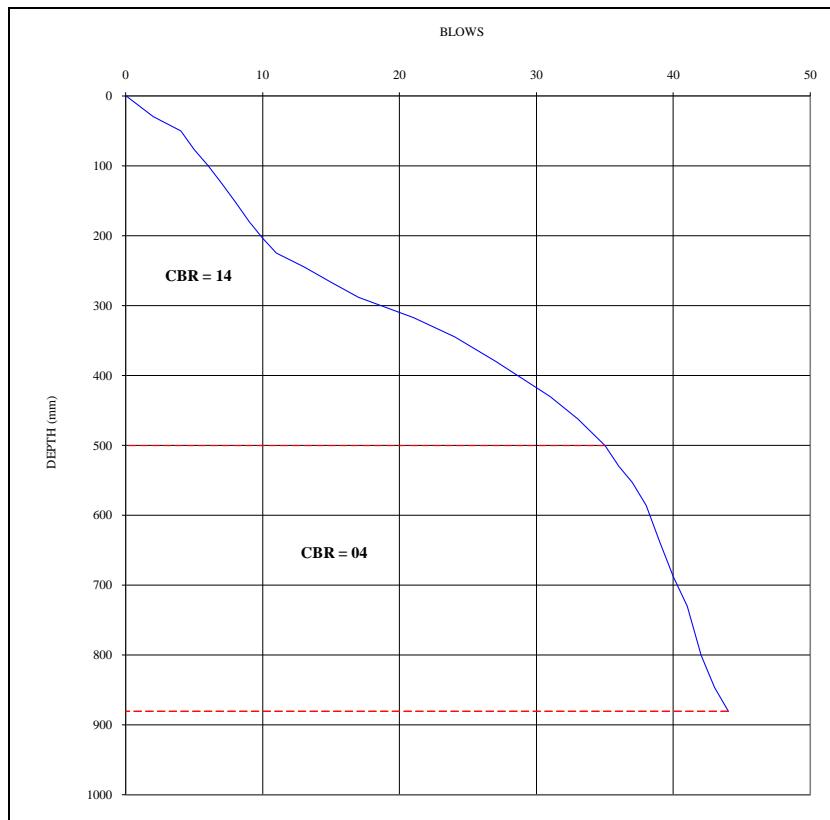
**Figure B-31 DCP Profile**



Location: Km 6+750, Lt/14.00 m

Depth: 0.00 m - 1.00 m

Date : 03/08/2017



**DCP Test No. 32**

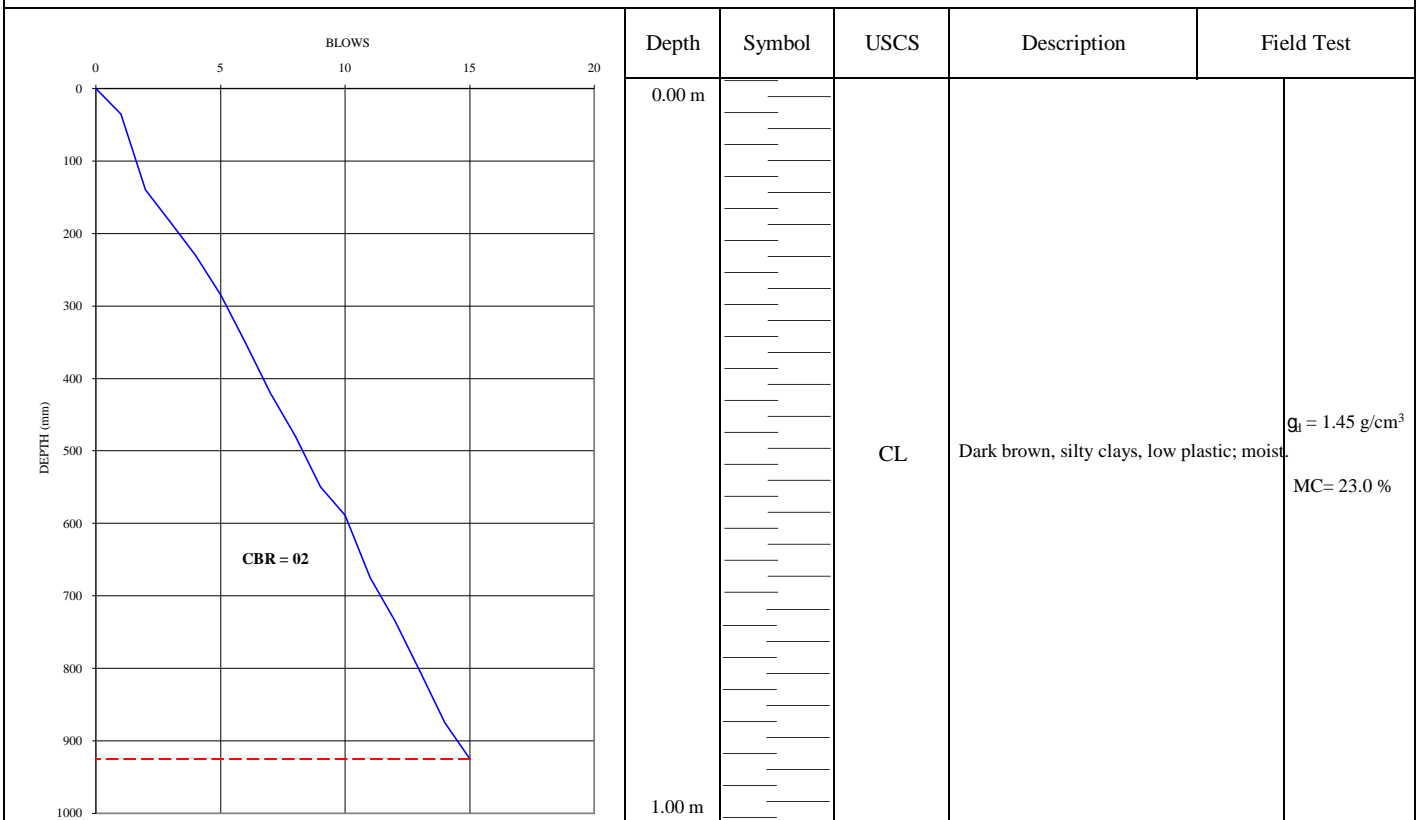
**Figure B-32 DCP Profile**



Location: Km 6+983, Lt/10.00 m

Depth: 0.00m - 1.00 m

Date : 04/08/2017



DCP Test No. 33

Test Pit No. 12

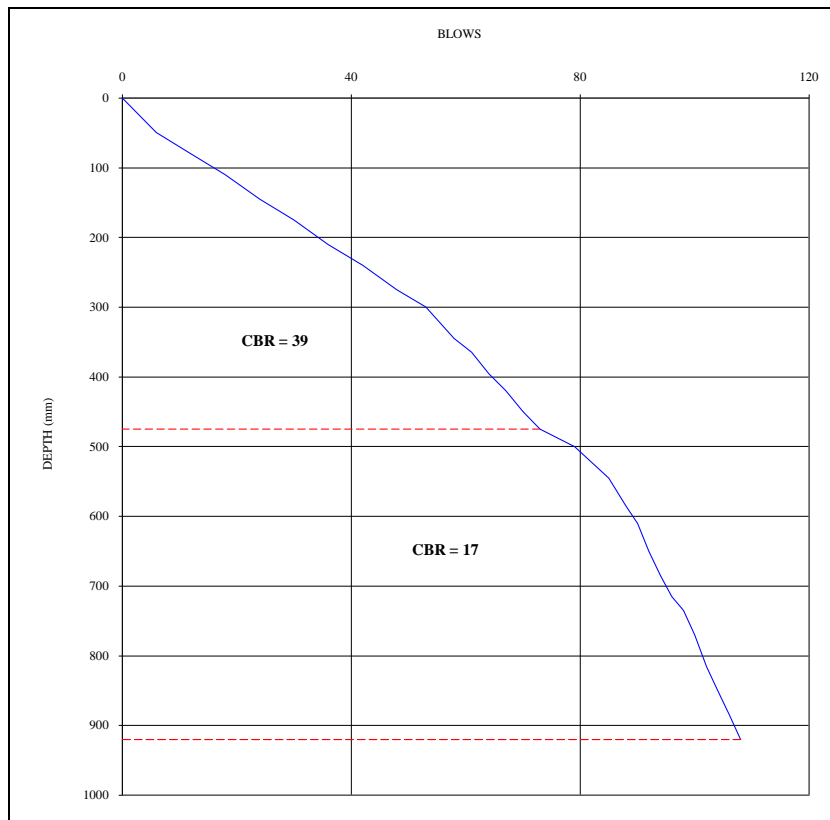
Figure B-33 DCP Profile and Test Pit Log



Location: Km 7+250, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 34**

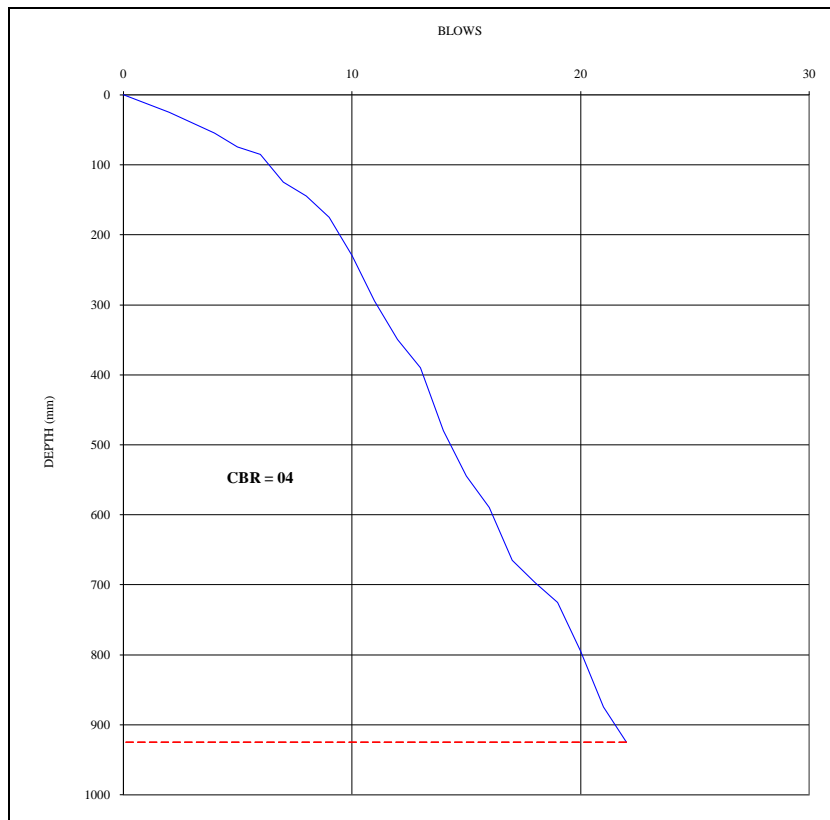
**Figure B-34 DCP Profile**



Location: Km 7+500, Lt/9.50 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 35**

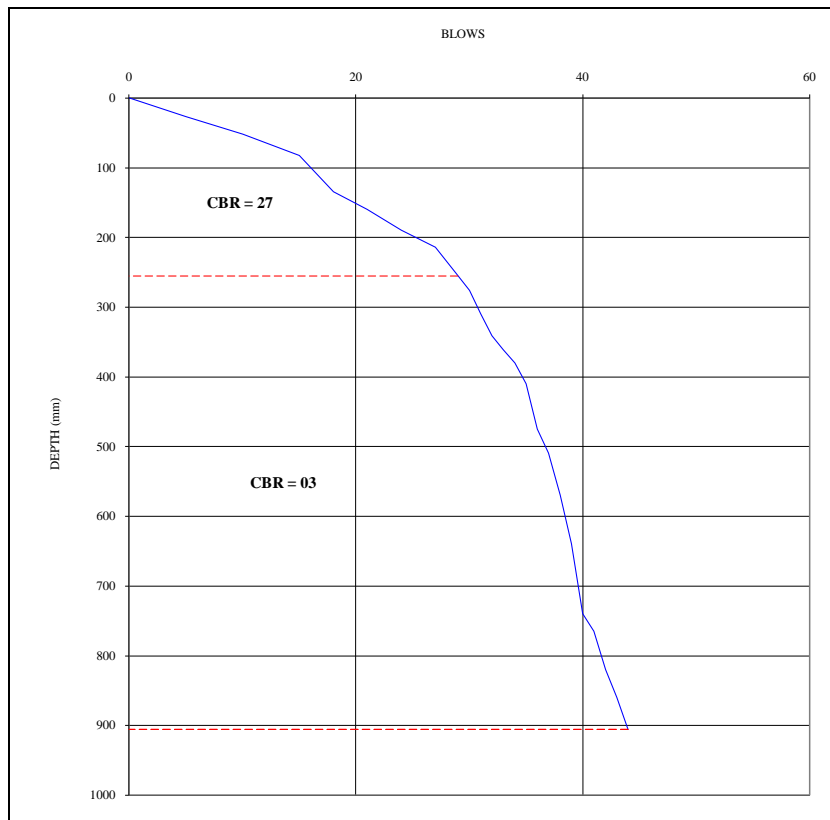
**Figure B-35 DCP Profile**



Location: Km 7+750, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 36**

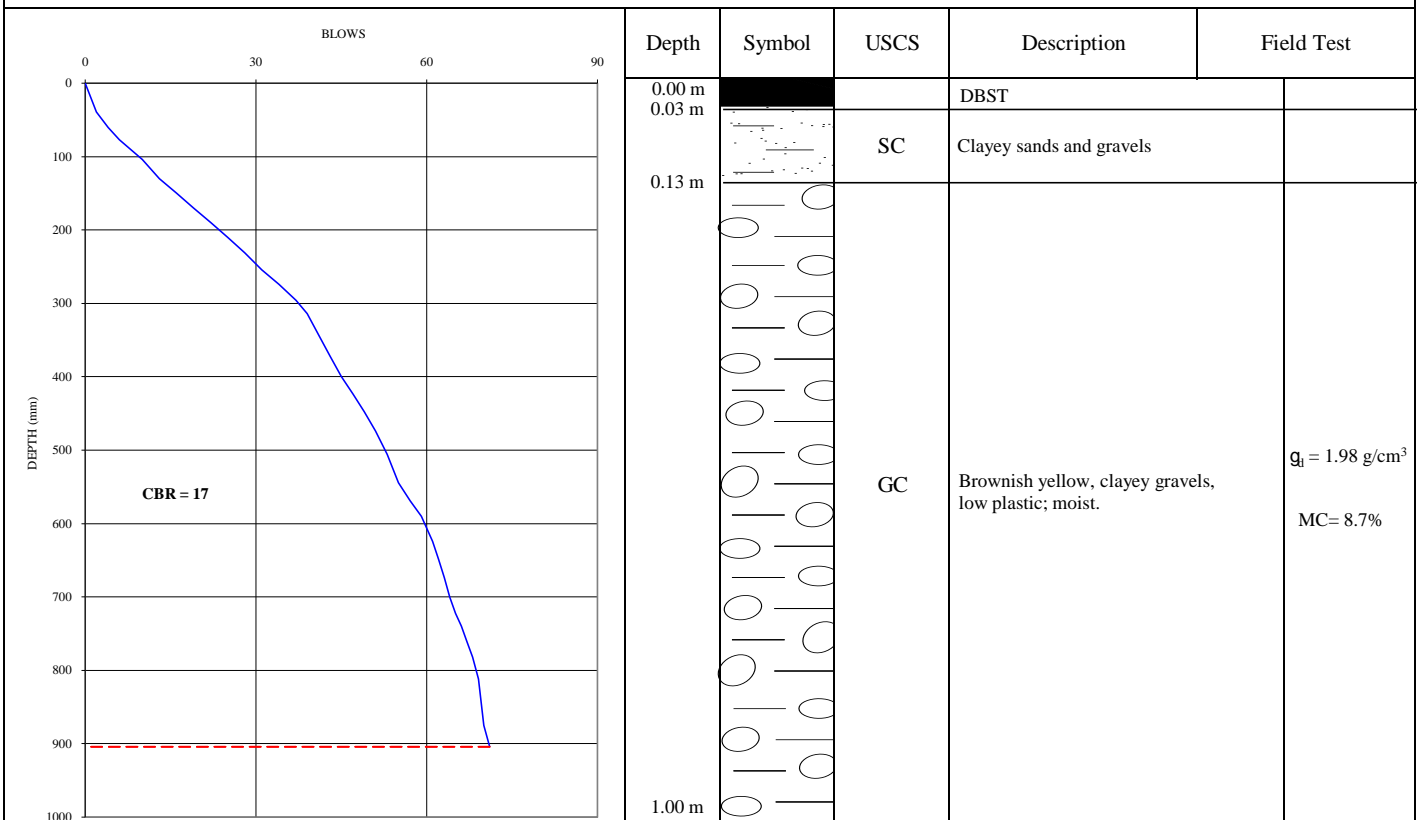
**Figure B-36 DCP Profile**



Location: Km 8+010, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 04/08/2017



DCP Test No. 37

Test Pit No. 13

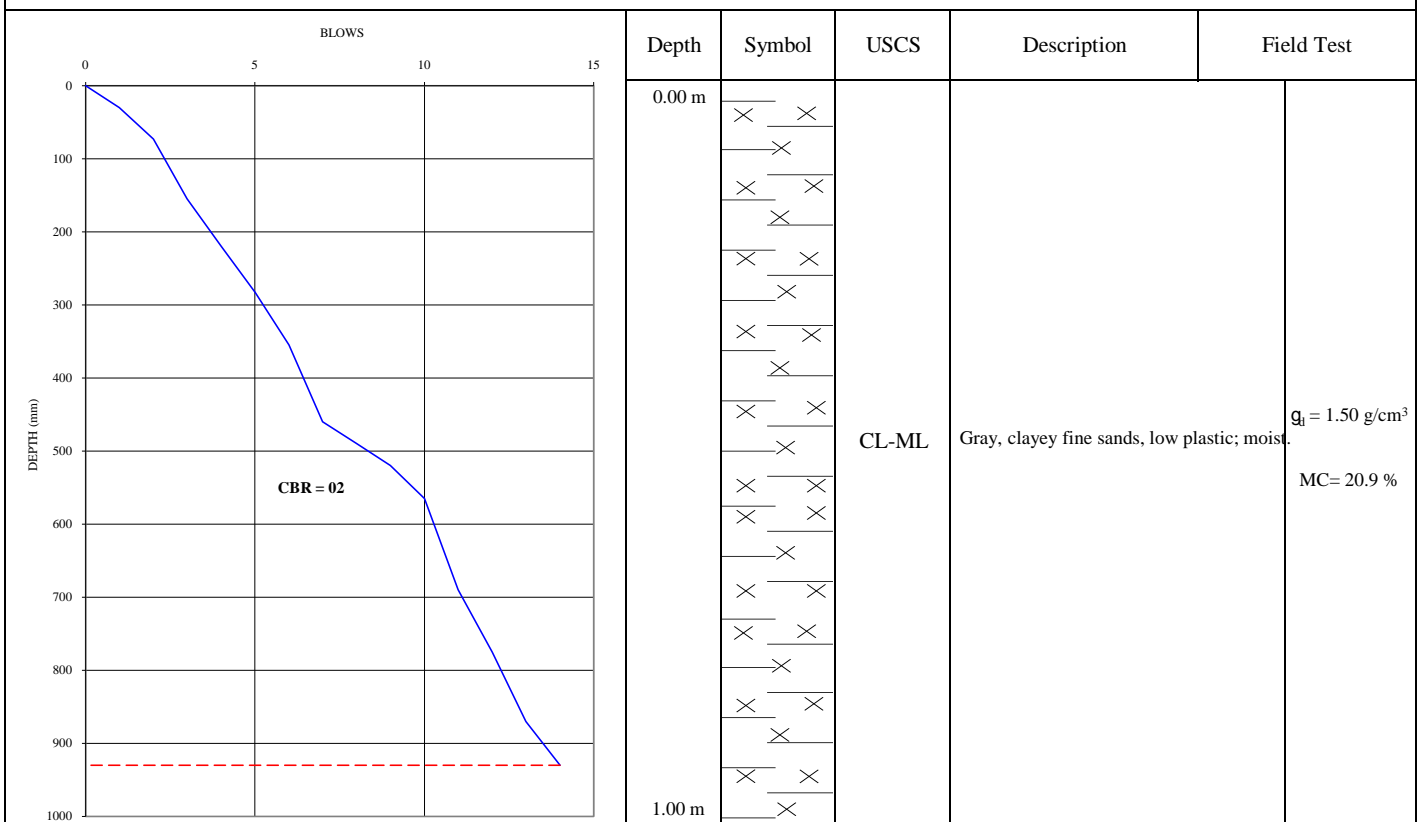
Figure B-37 DCP Profile and Test Pit Log



Location: Km 8+062, Lt/13.00 m

Depth: 0.00m - 1.00 m

Date : 04/08/2017



DCP Test No. 38

Test Pit No. 14

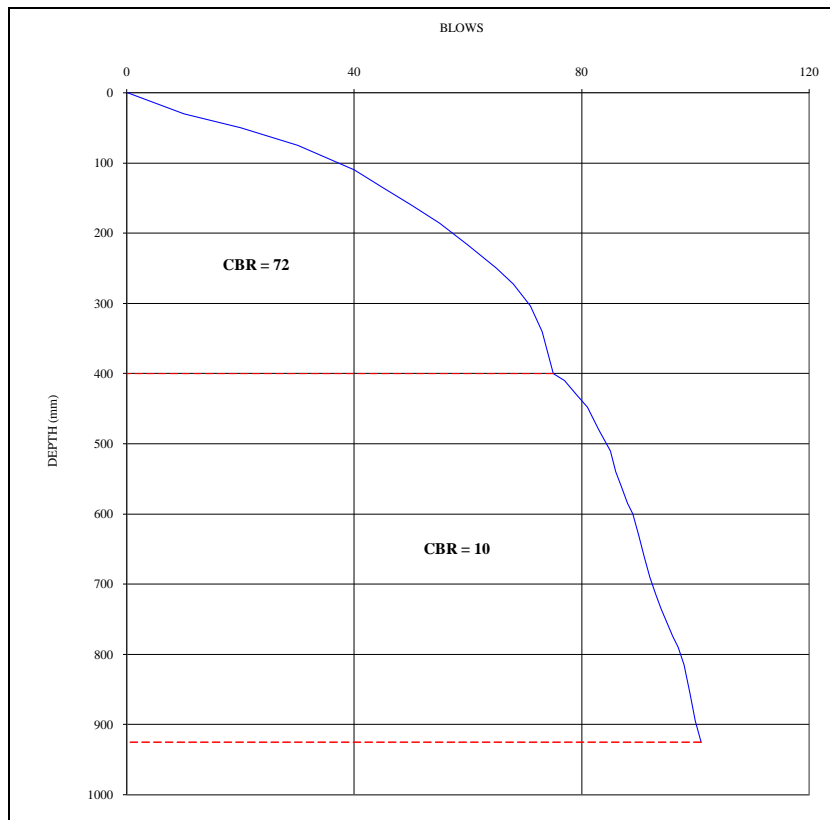
Figure B-38 DCP Profile and Test Pit Log



Location: Km 8+250, Rt/5.50m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



DCP Test No. 39

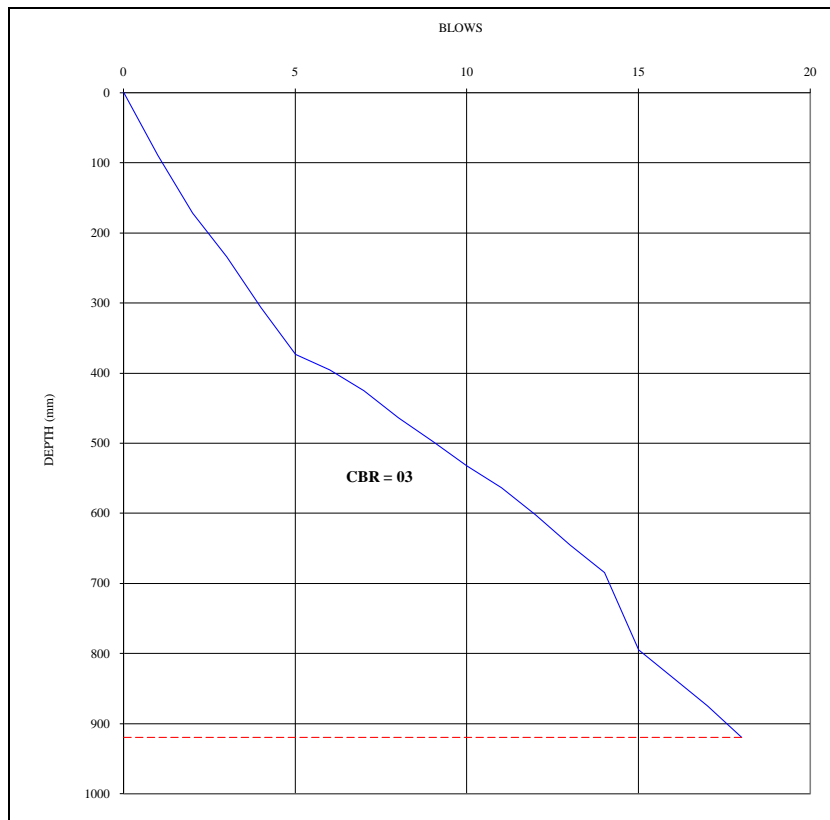
Figure B-39 DCP Profile



Location: Km 8+500, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 40**

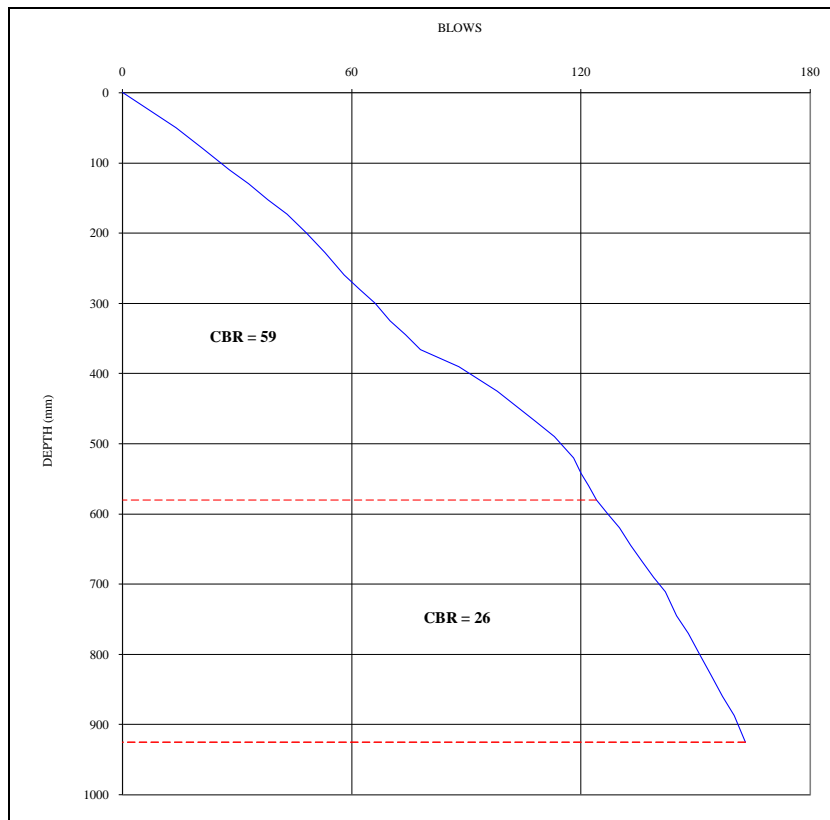
**Figure B-40 DCP Profile**



Location: Km 8+750, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 41**

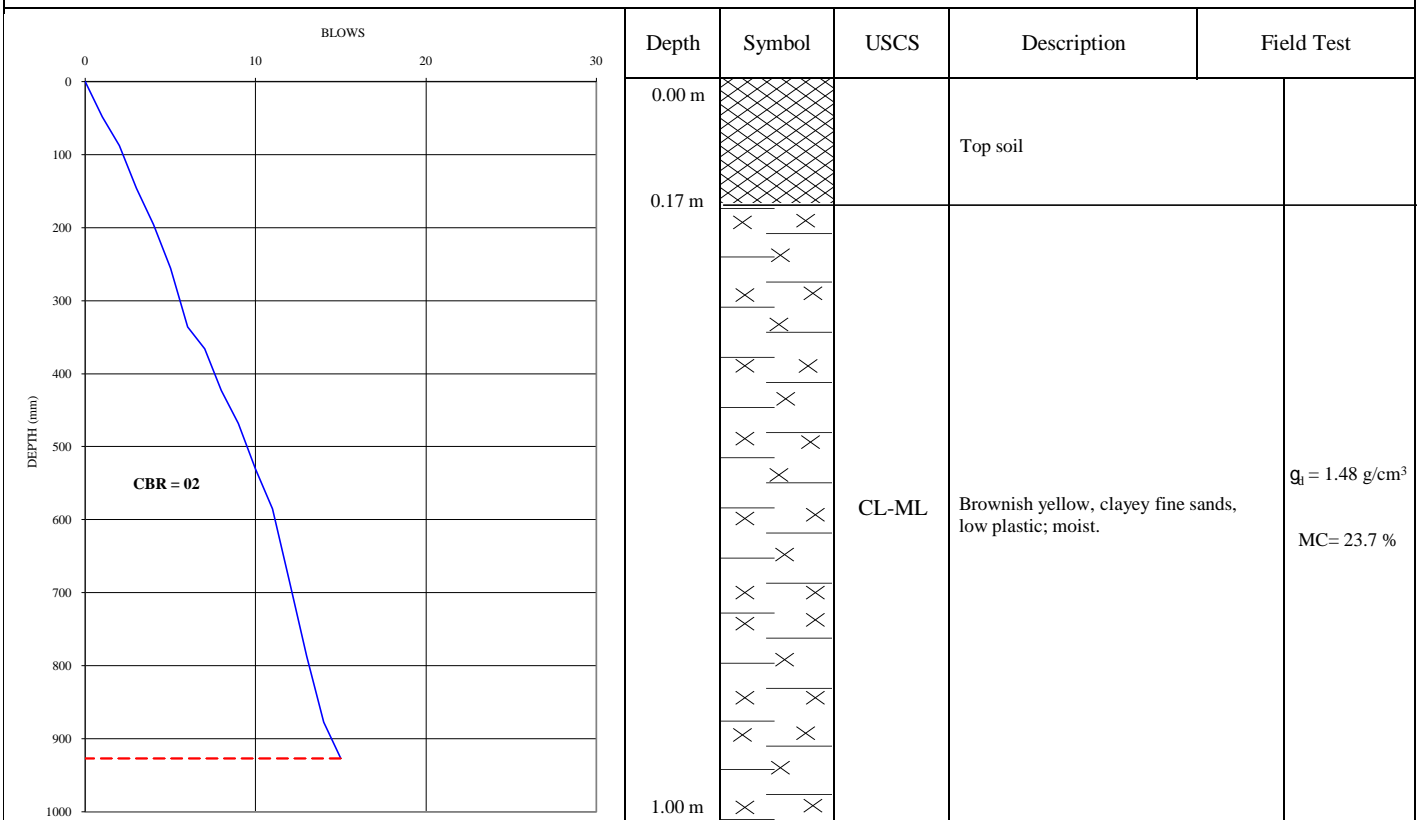
**Figure B-41 DCP Profile**



Location: Km 9+000, Lt/9.00 m

Depth: 0.00m - 1.00 m

Date : 04/08/2017



DCP Test No. 42

Test Pit No. 15

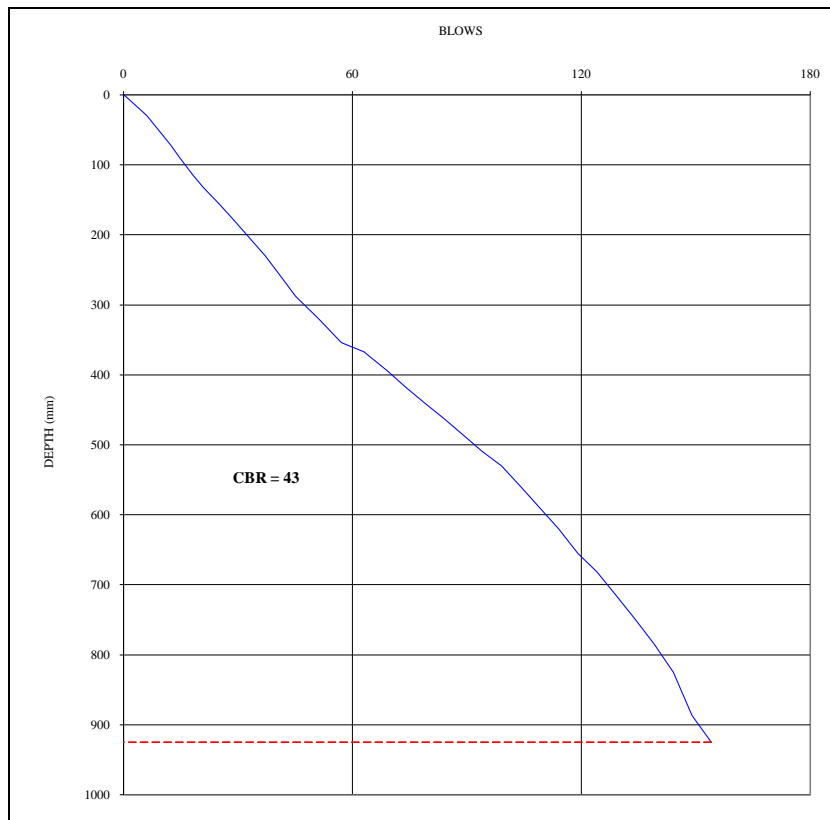
Figure B-42 DCP Profile and Test Pit Log



Location: Km 9+250, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 43**

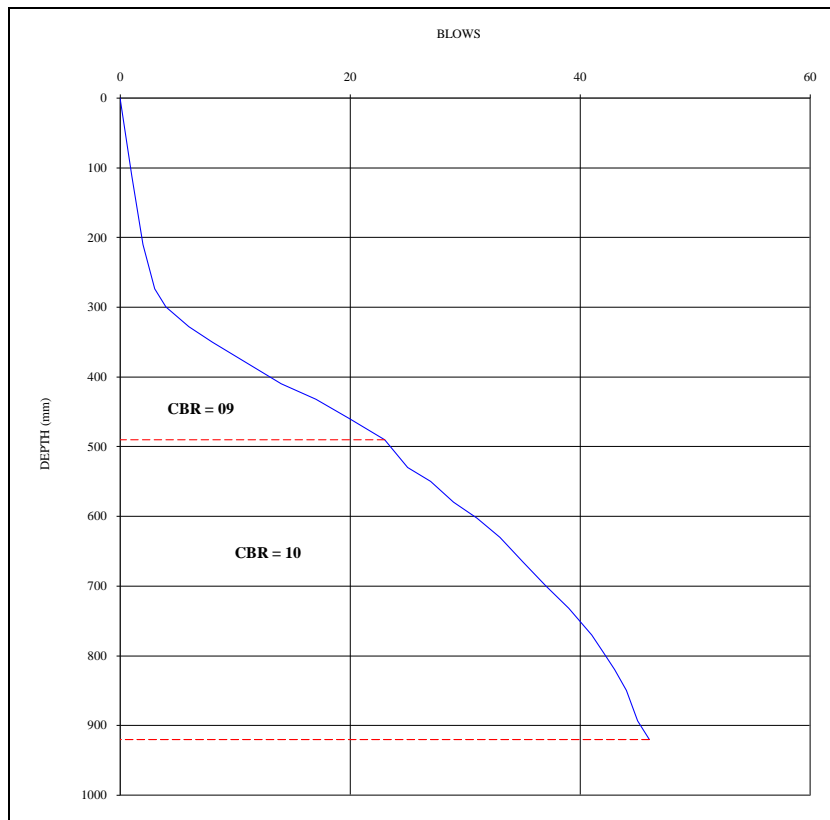
**Figure B-43 DCP Profile**



Location: Km 9+500, Lt/9.60 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 44**

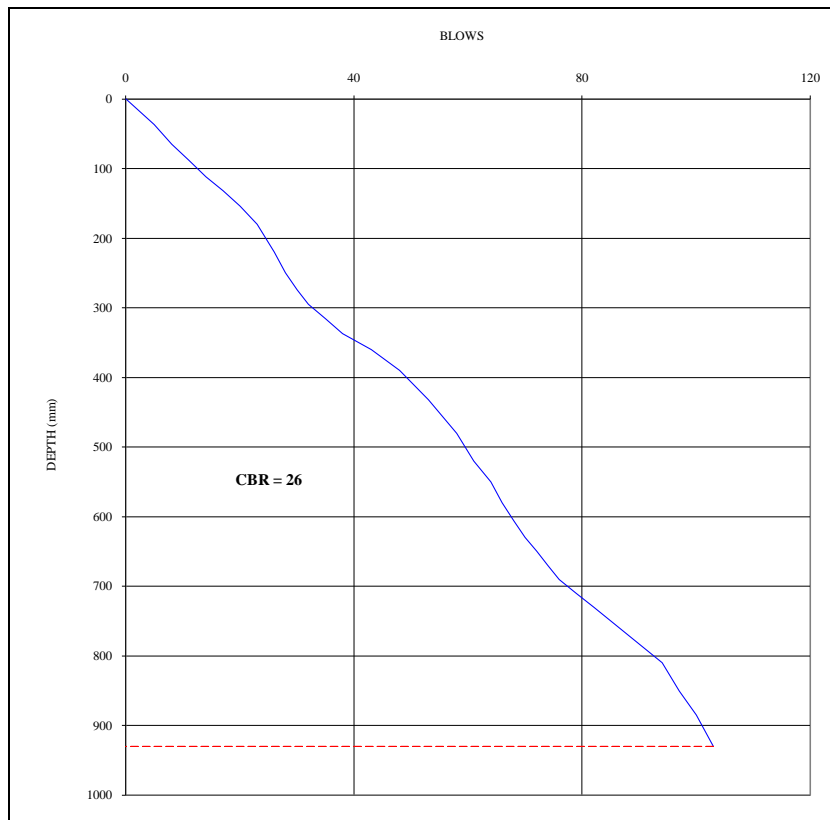
**Figure B-44 DCP Profile**



Location: Km 9+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 04/08/2017



**DCP Test No. 45**

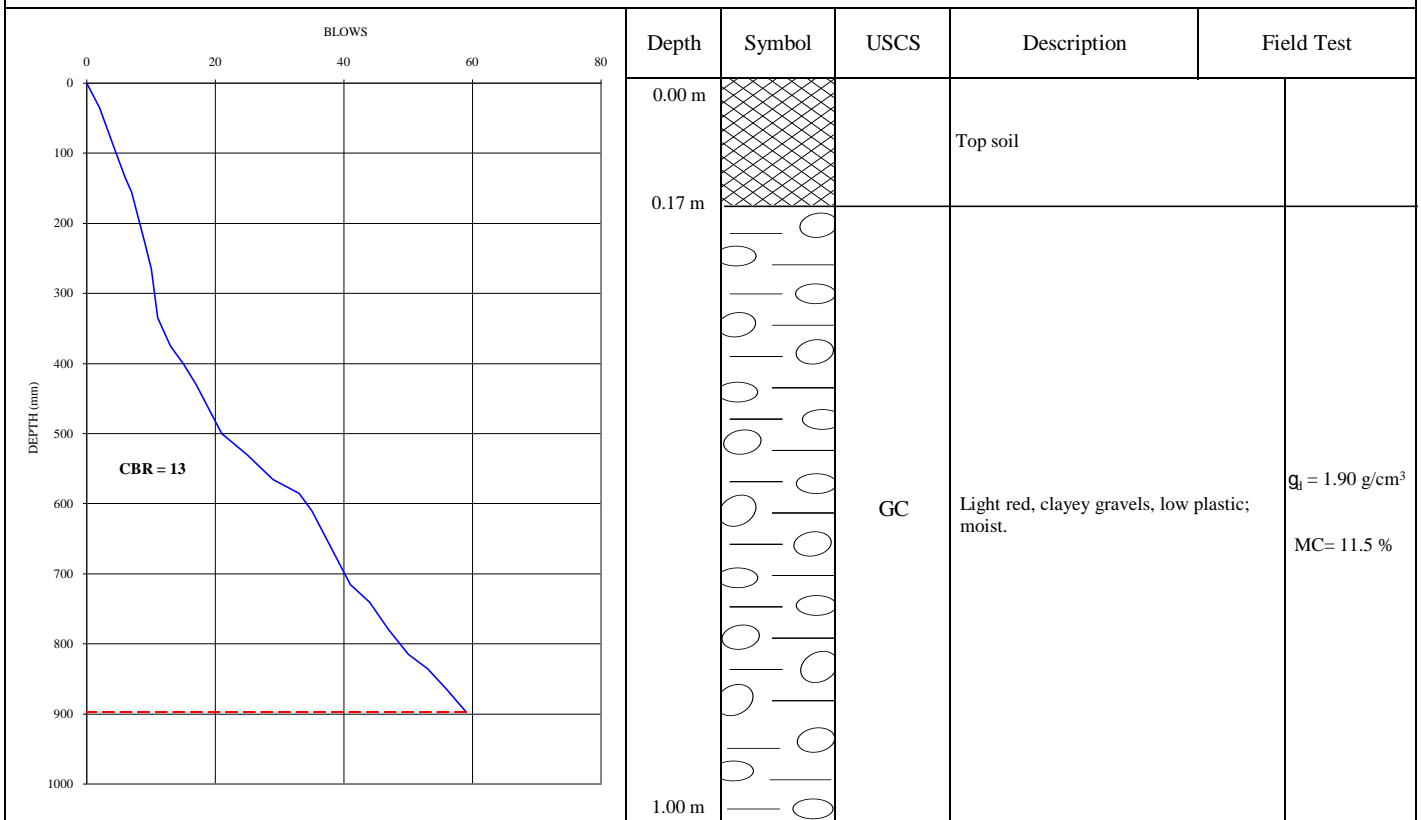
**Figure B-45 DCP Profile**



Location: Km 9+957, Lt/11.50 m

Depth: 0.00m - 1.00 m

Date : 04/08/2017



DCP Test No. 46

Test Pit No. 16

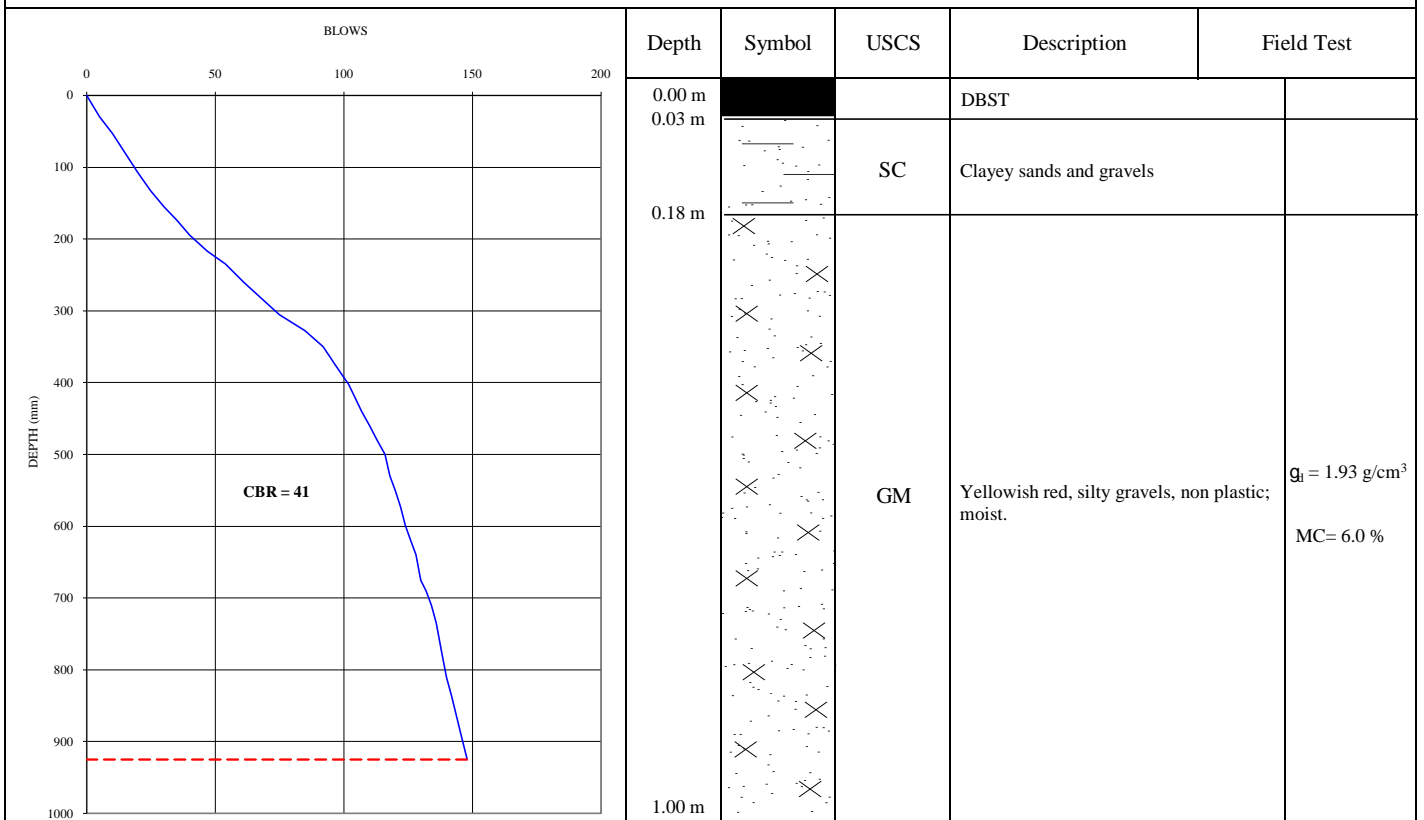
Figure B-46 DCP Profile and Test Pit Log



Location: Km 9+985, Rt/4.50 m

Depth: 0.00m - 1.00 m

Date : 05/08/2017



DCP Test No. 47

Test Pit No. 17

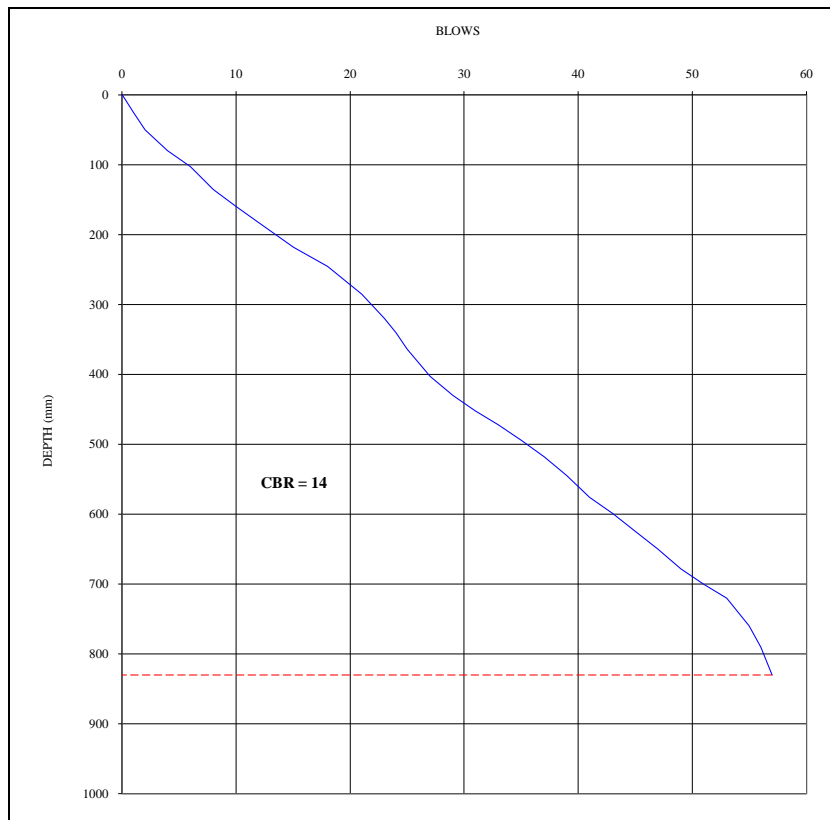
Figure B-47 DCP Profile and Test Pit Log



Location: Km 10+250, Lt/11.20 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 48**

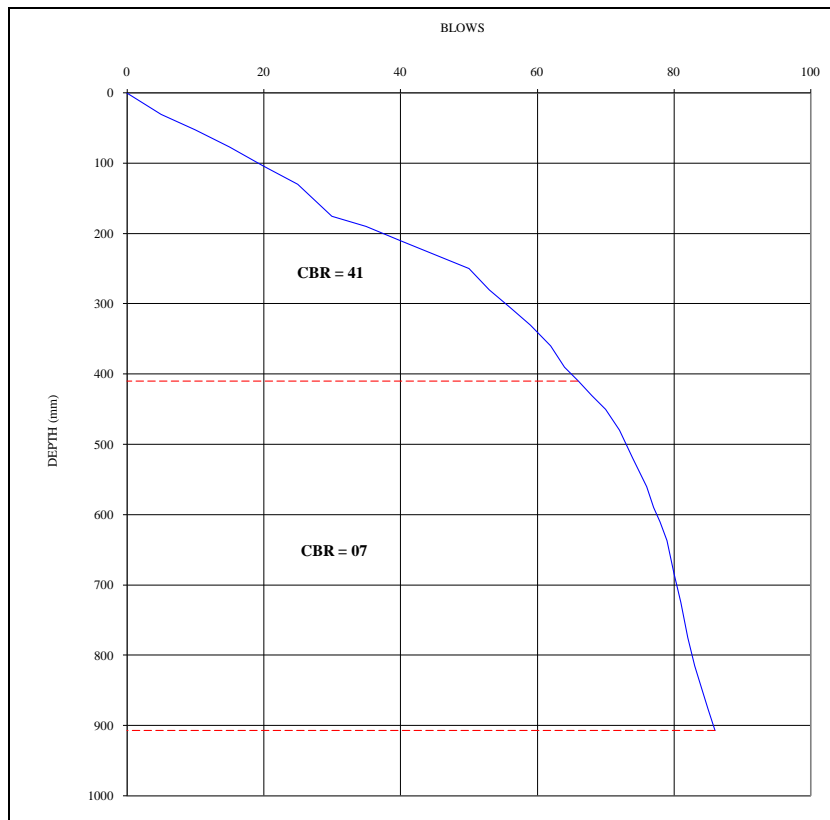
**Figure B-48 DCP Profile**



Location: Km 10+500, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 49**

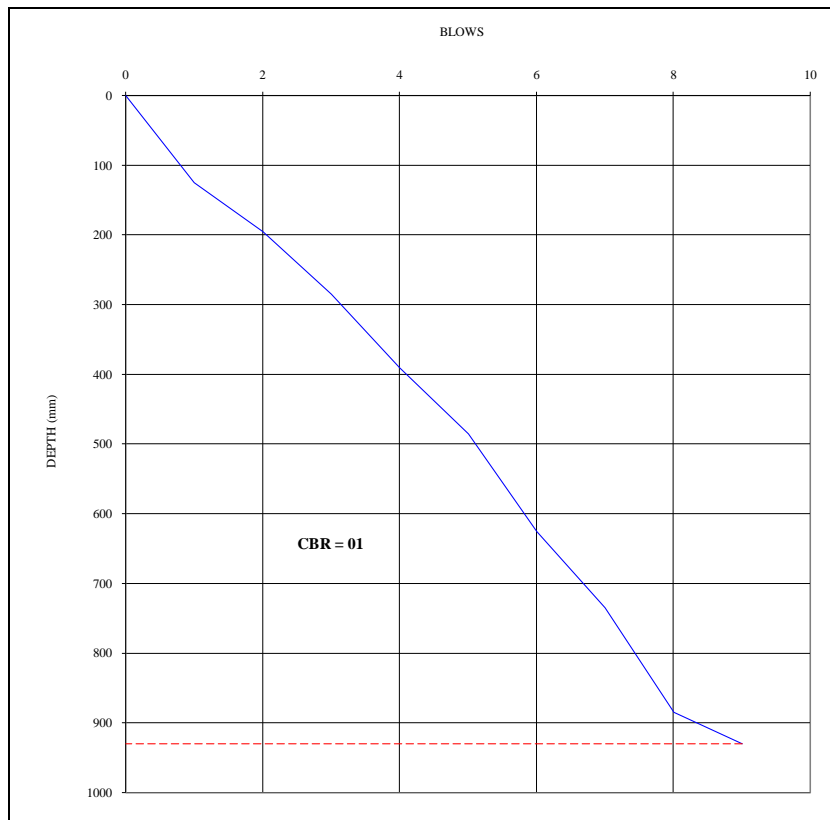
**Figure B-49 DCP Profile**



Location: Km 10+750, Lt/11.50 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 50**

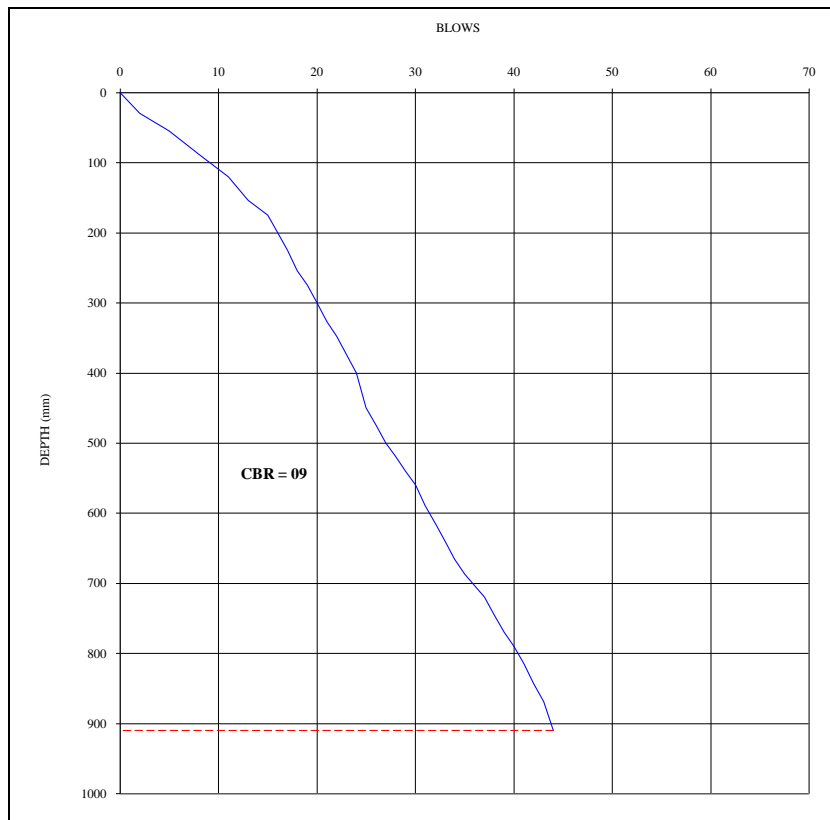
**Figure B-50 DCP Profile**



Location: 11+000, Rt/6.20 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 51**

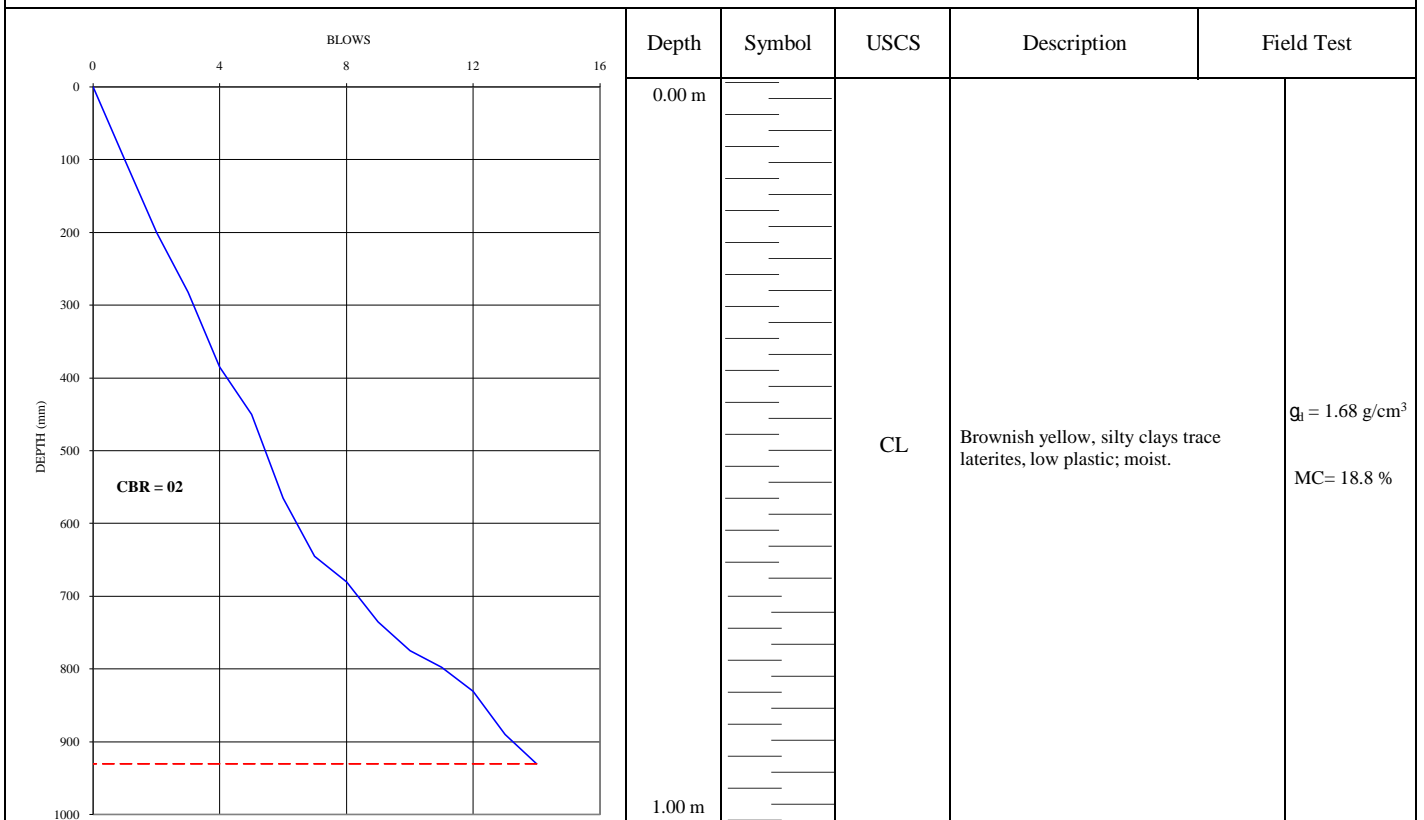
**Figure B-51 DCP Profile**



Location: Km 10+017, Lt/13.00 m

Depth: 0.00m - 1.00 m

Date : 05/08/2017



**DCP Test No. 52**

**Test Pit No. 18**

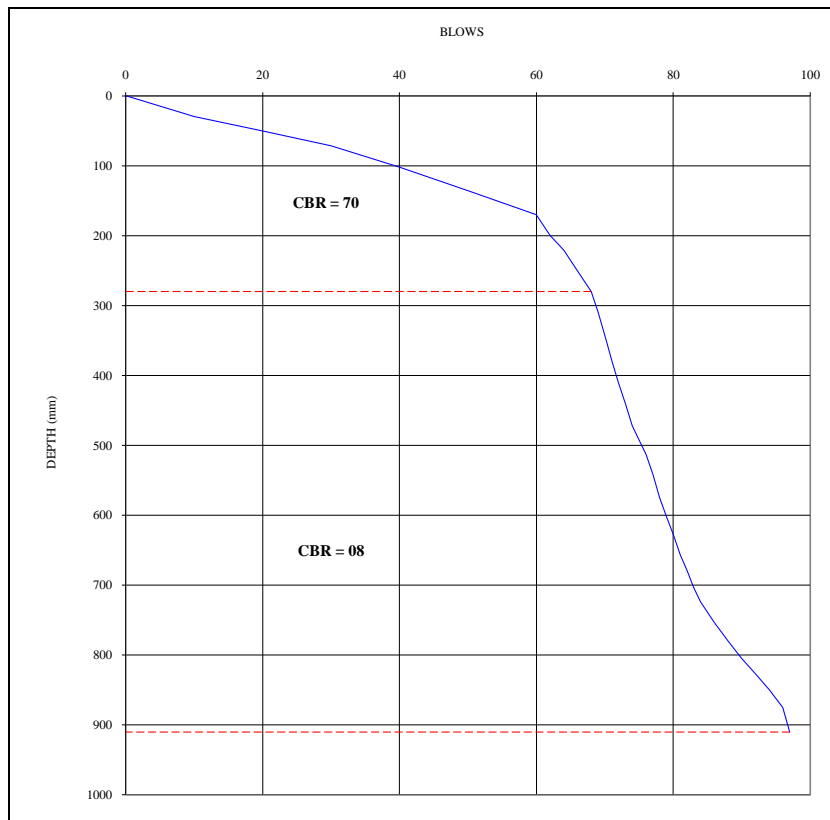
**Figure B-52 DCP Profile and Test Pit Log**



Location: Km 11+250, Rt/5.30 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 53**

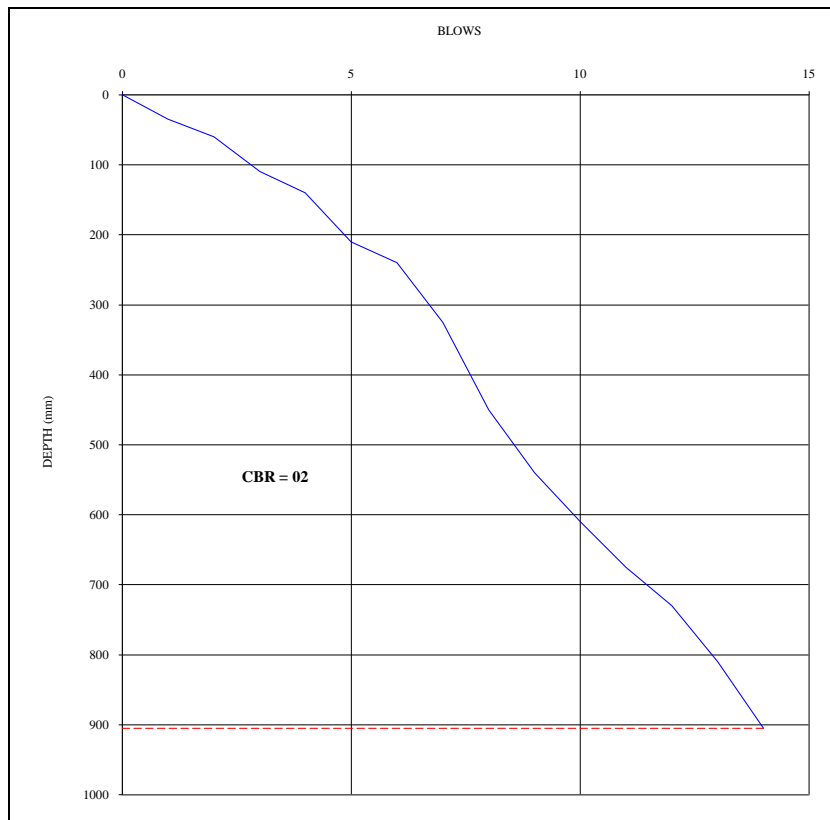
**Figure B-53 DCP Profile**



Location: Km 11+500, Lt/14.00 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



DCP Test No. 54

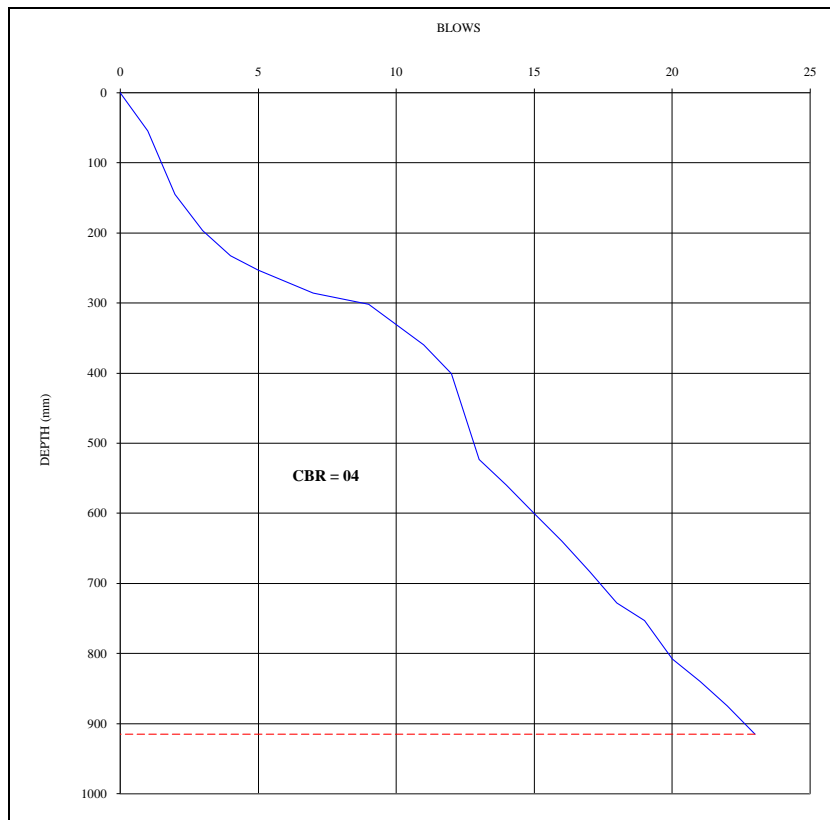
Figure B-54 DCP Profile



Location: Km 11+750, Rt/6.80 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 55**

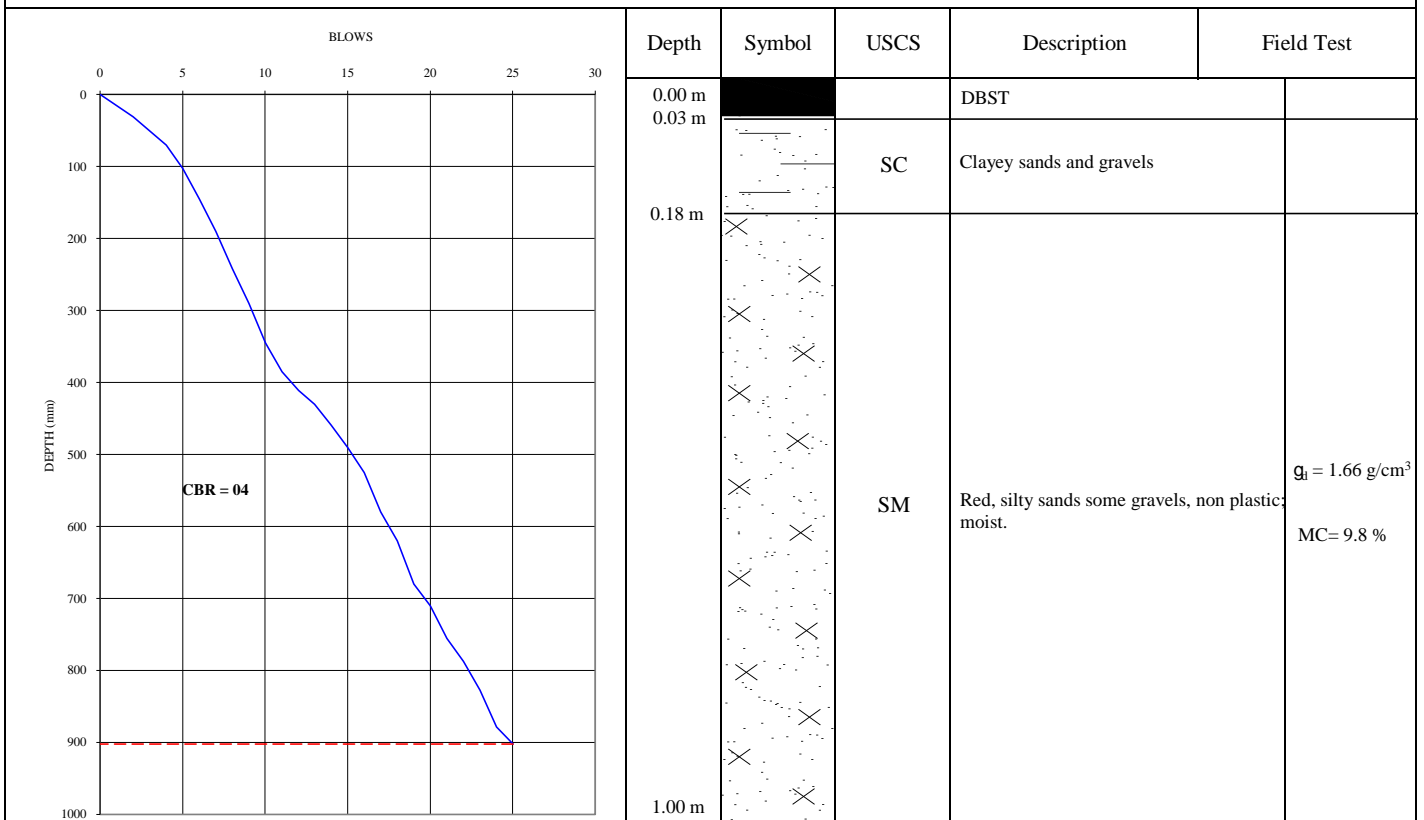
**Figure B-55 DCP Profile**



Location: Km 12+000, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 05/08/2017



DCP Test No. 56

Test Pit No. 19

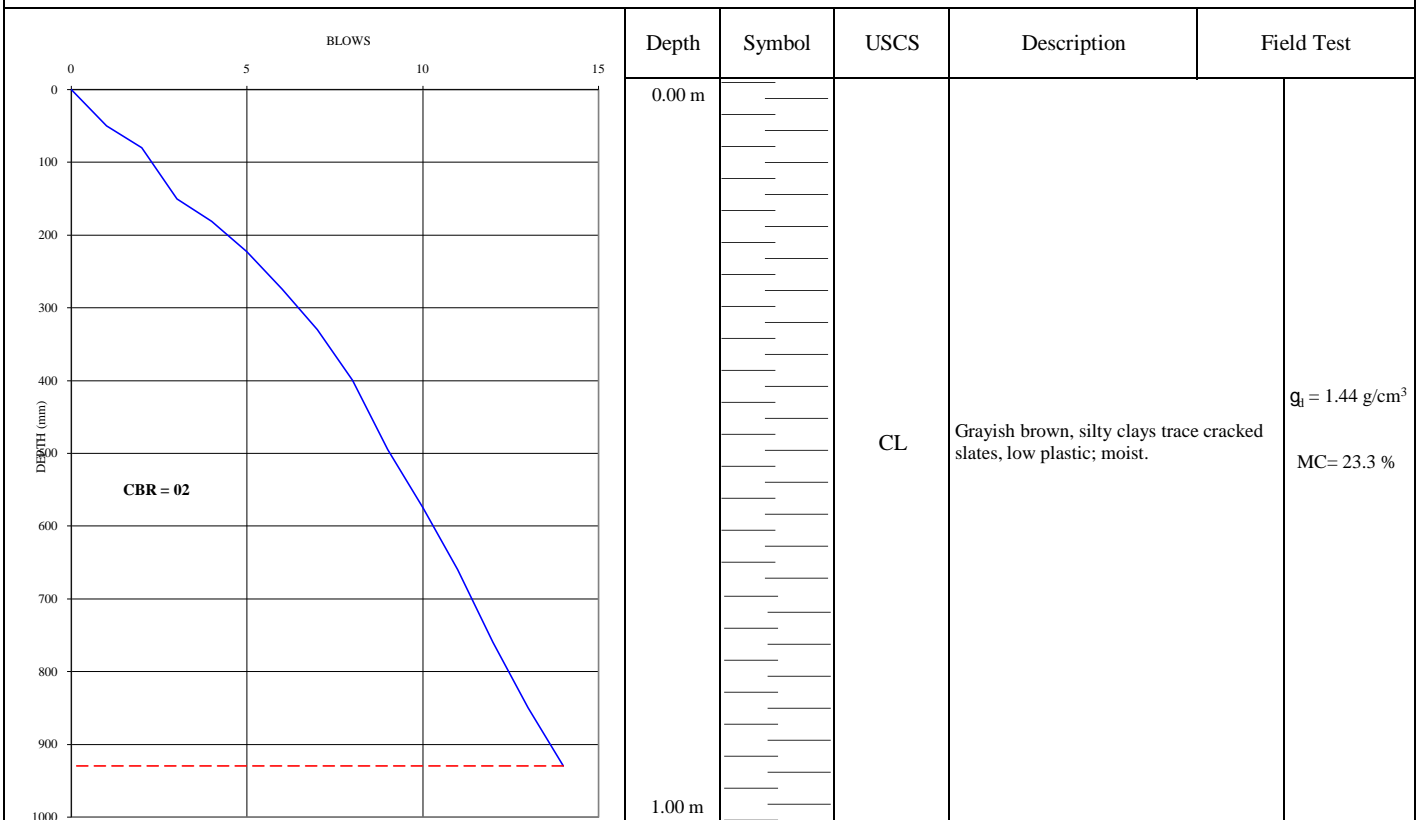
Figure B-56 DCP Profile and Test Pit Log



Location: Km 12+075, Lt/13.50 m

Depth: 0.00m - 1.00 m

Date : 05/08/2017



DCP Test No. 57

Test Pit No. 20

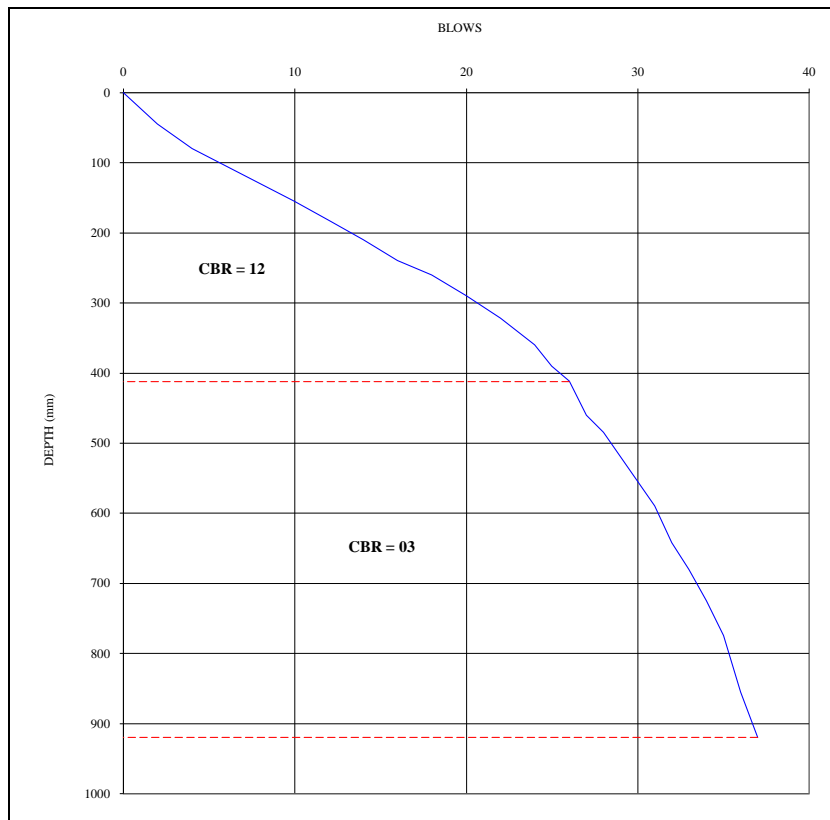
Figure B-57 DCP Profile and Test Pit Log



Location: Km 12+250, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 58**

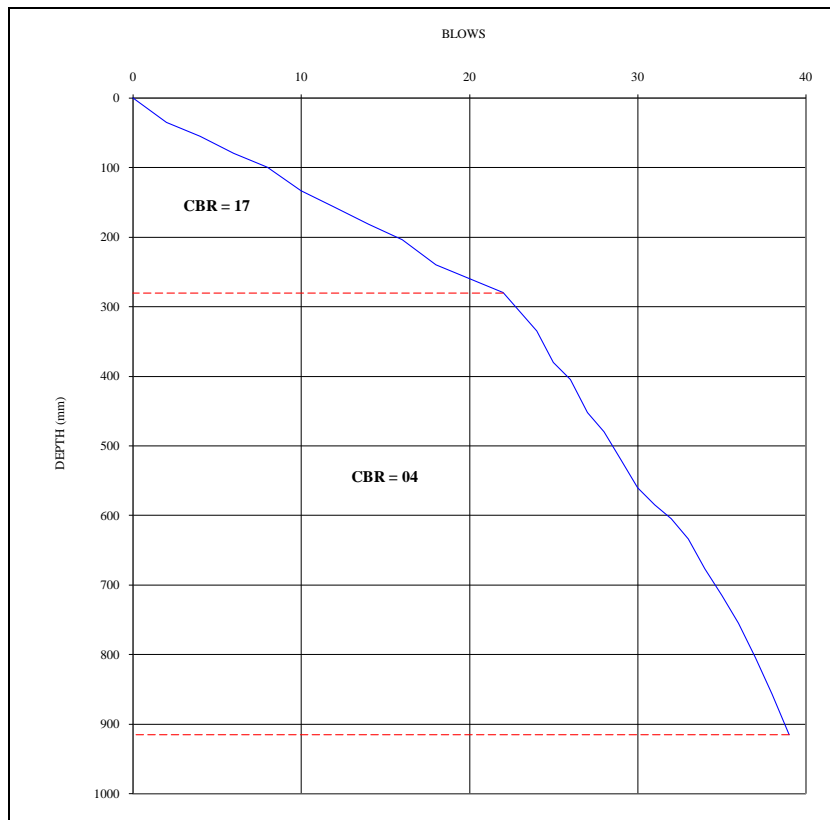
**Figure B-58 DCP Profile**



Location: Km 12+500, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 59**

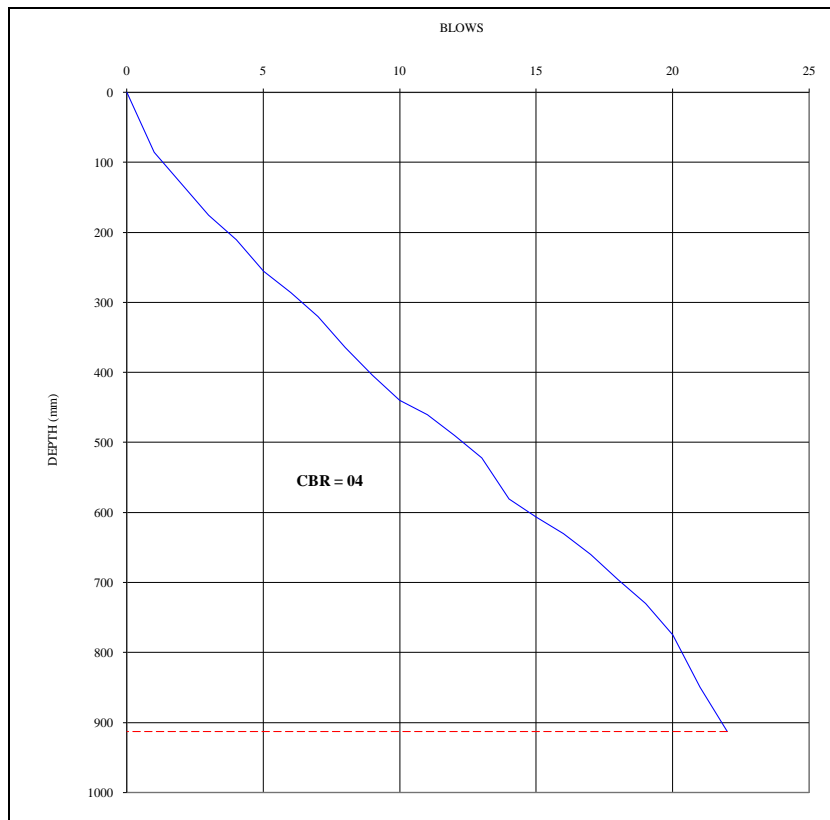
**Figure B-59 DCP Profile**



Location: Km 12+750, Lt/12.00 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 60**

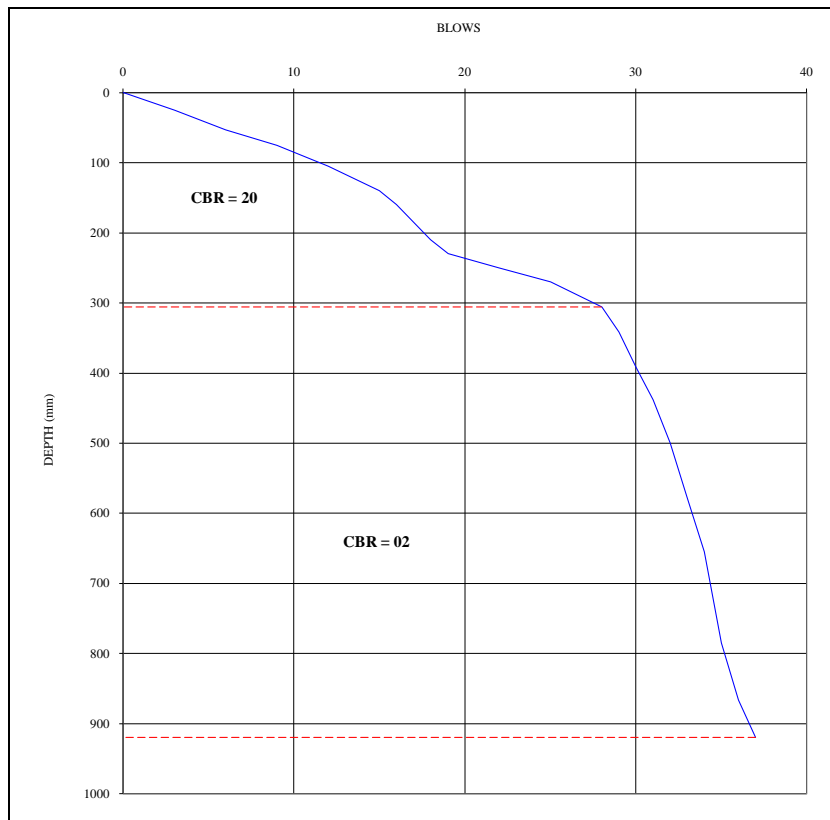
**Figure B-60 DCP Profile**



Location: Km 13+000, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 61**

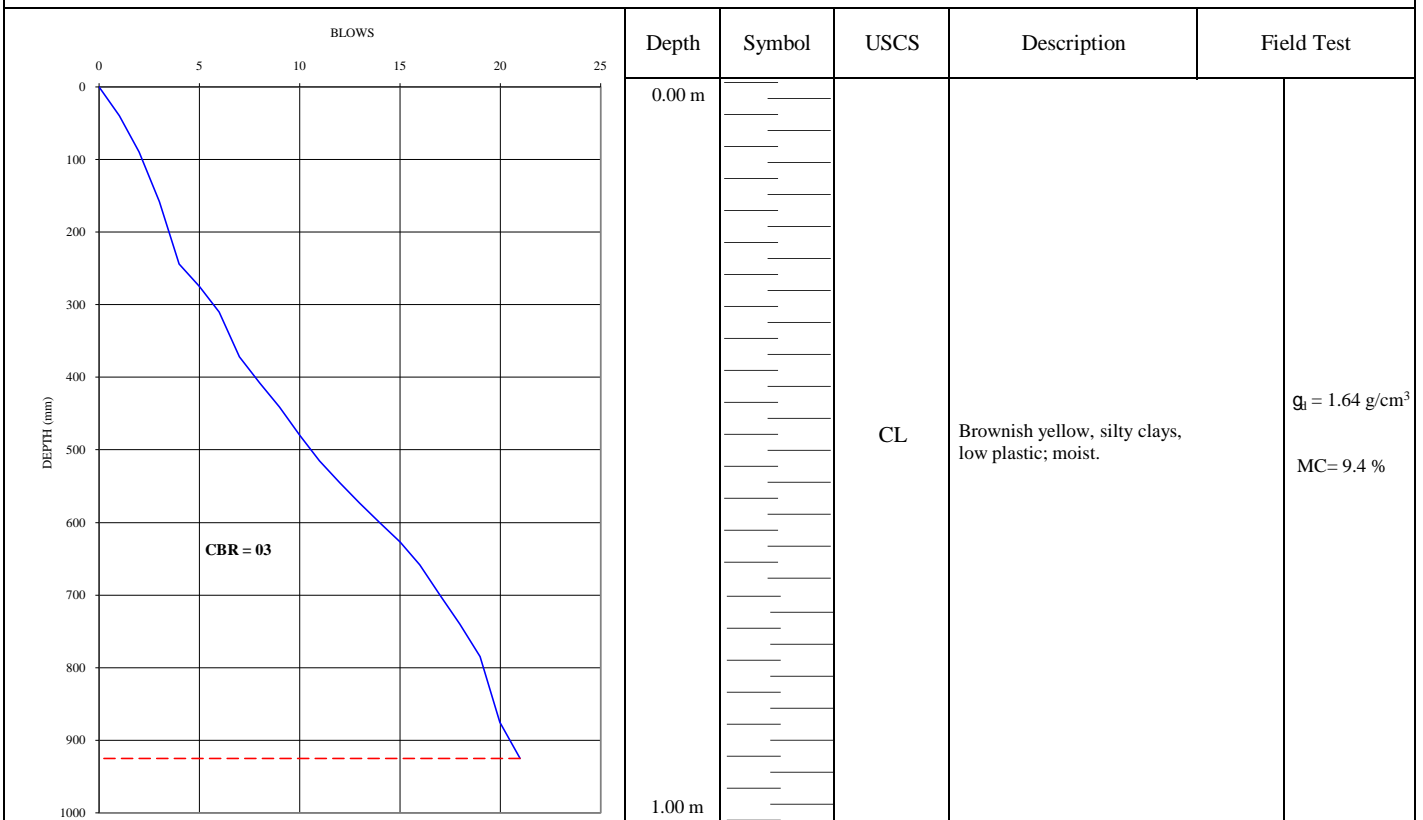
**Figure B-61 DCP Profile**



Location: Km 13+000, Lt/13.00 m

Depth: 0.00m - 1.00 m

Date : 05/08/2017



**DCP Test No. 62**

**Test Pit No. 21**

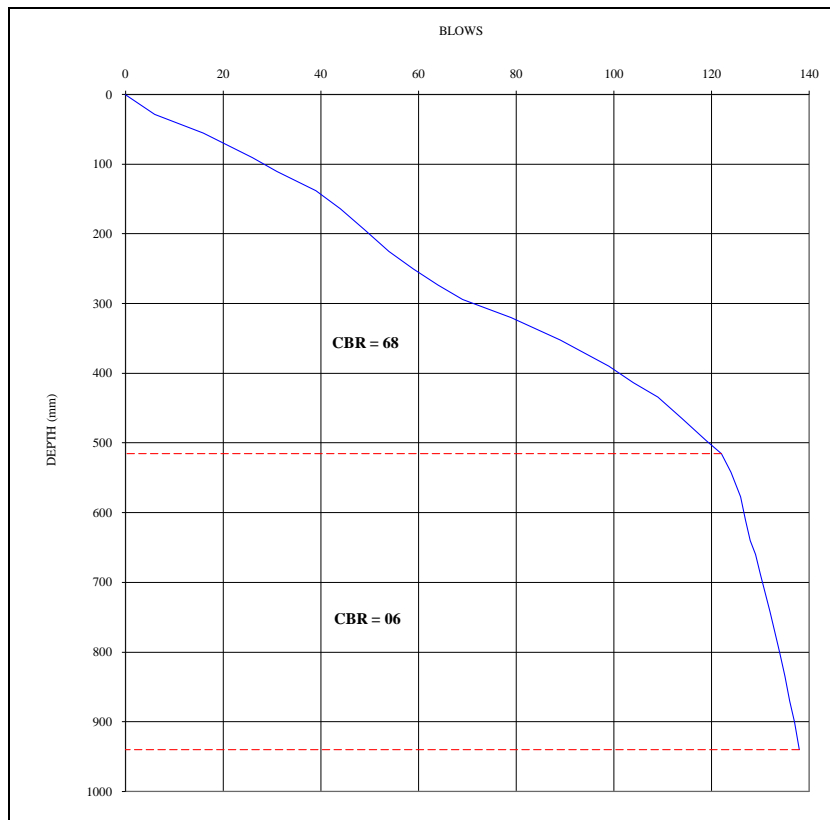
**Figure B-62 DCP Profile and Test Pit Log**



Location: Km 13+250, Rt/4.80 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



**DCP Test No. 63**

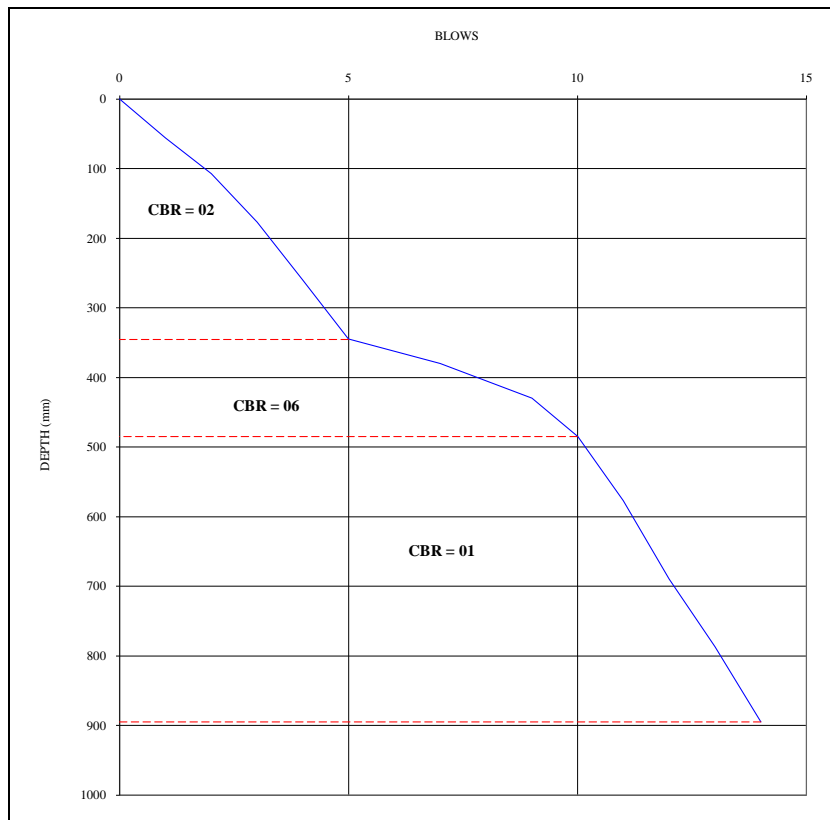
**Figure B-63 DCP Profile**



Location: Km 13+500, Lt/14.00 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



DCP Test No. 64

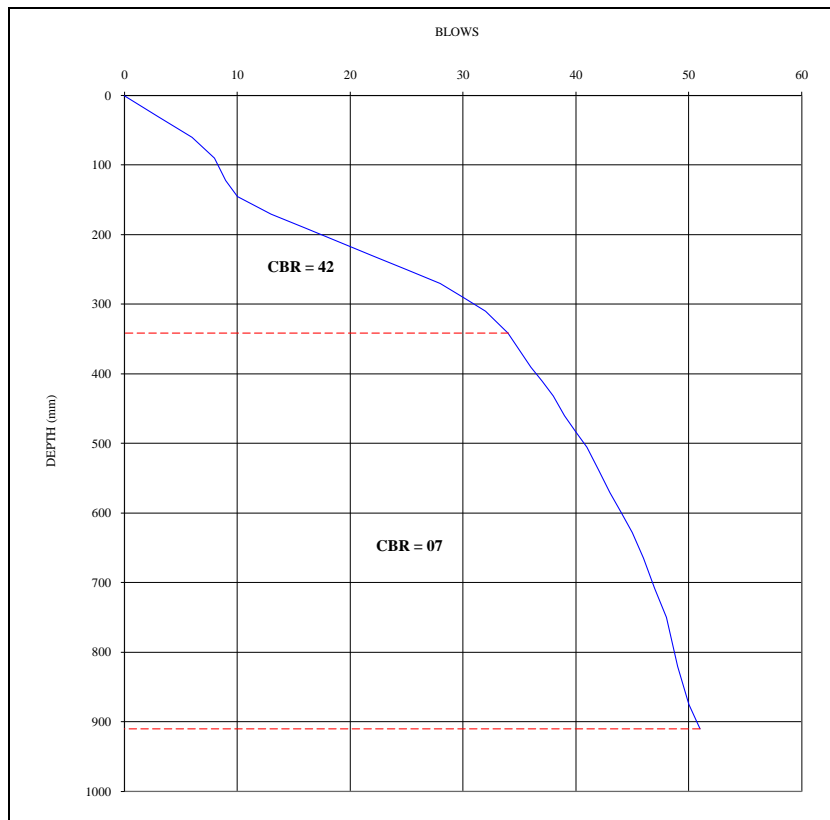
Figure B-64 DCP Profile



Location: Km 13+750, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 05/08/2017



DCP Test No. 65

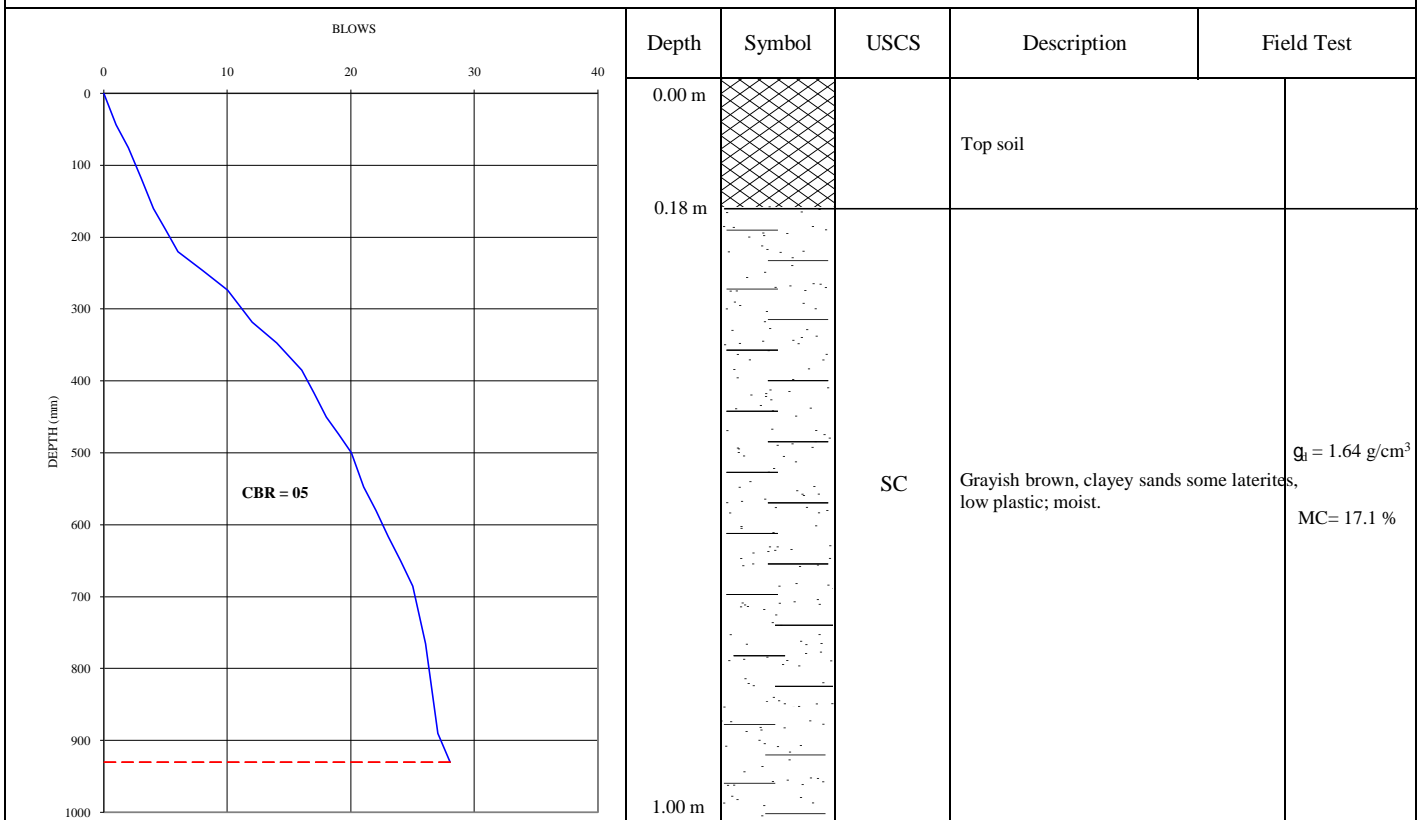
Figure B-65 DCP Profile



Location: Km 14+008, Lt/14.50 m

Depth: 0.00m - 1.00 m

Date : 05/08/2017



DCP Test No. 66

Test Pit No. 22

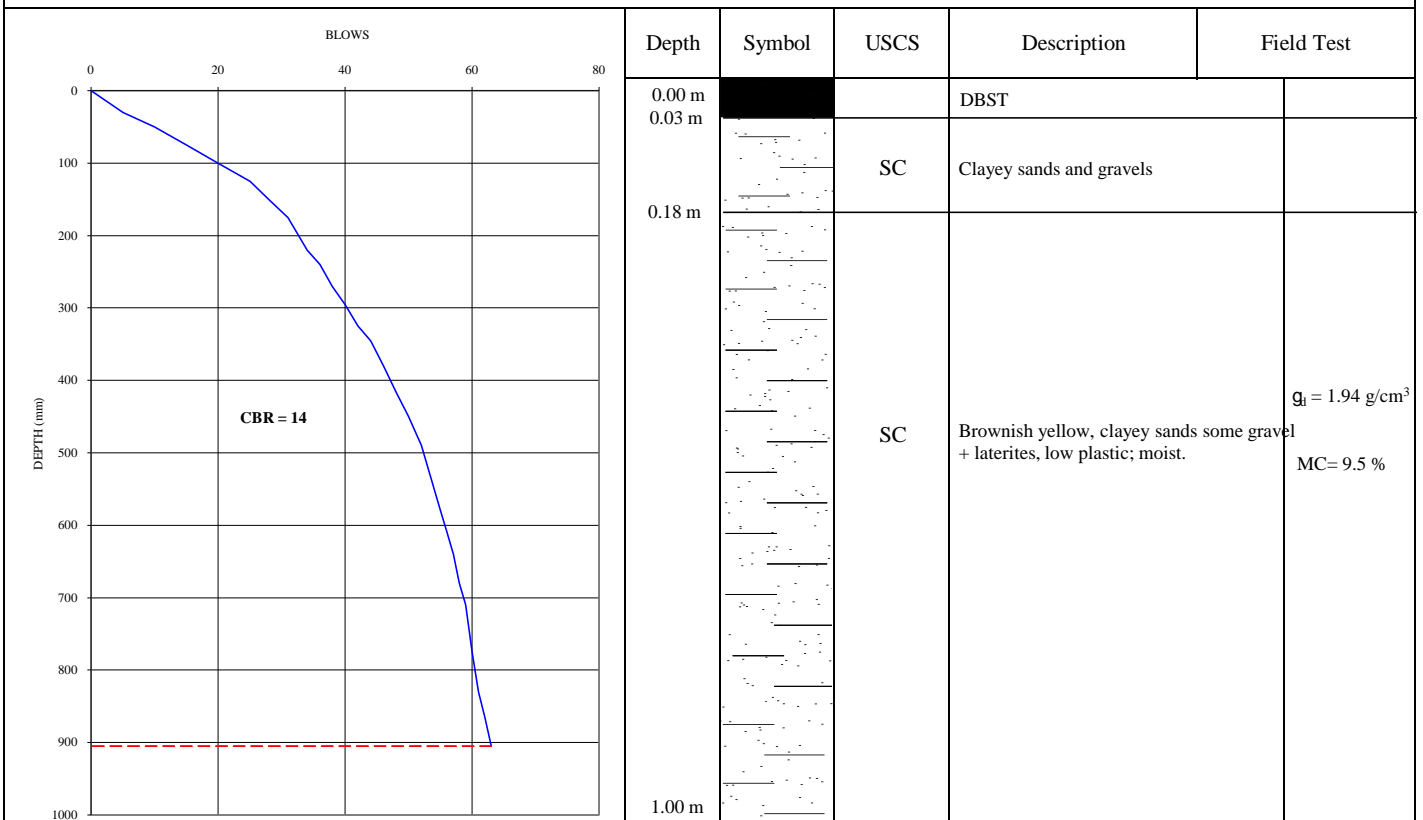
Figure B-66 DCP Profile and Test Pit Log



Location: Km 14+008, Rt/4.50 m

Depth: 0.00m - 1.00 m

Date : 05/08/2017



DCP Test No. 67

Test Pit No. 23

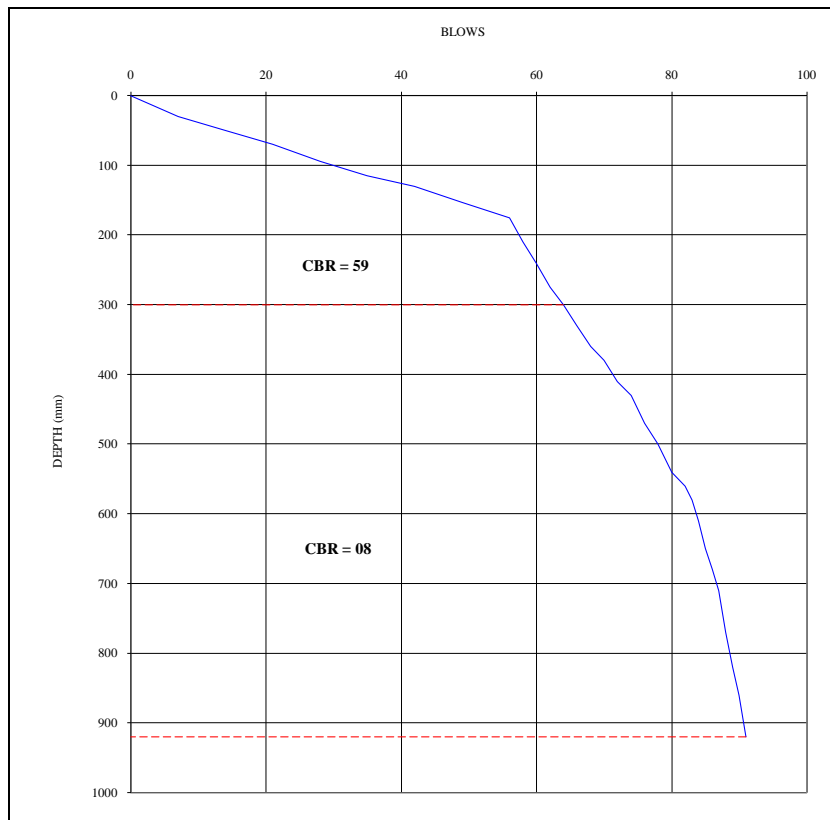
Figure B-67 DCP Profile and Test Pit Log



Location: Km 14+250, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 68**

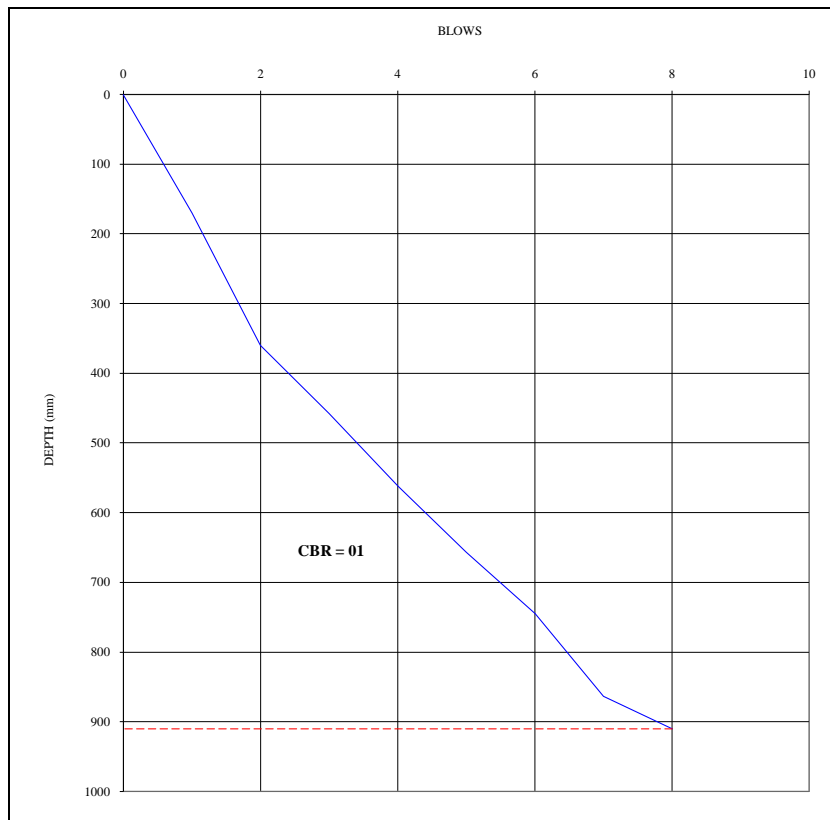
**Figure B-68 DCP Profile**



Location: Km 14+550, Lt/10.90 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



DCP Test No. 69

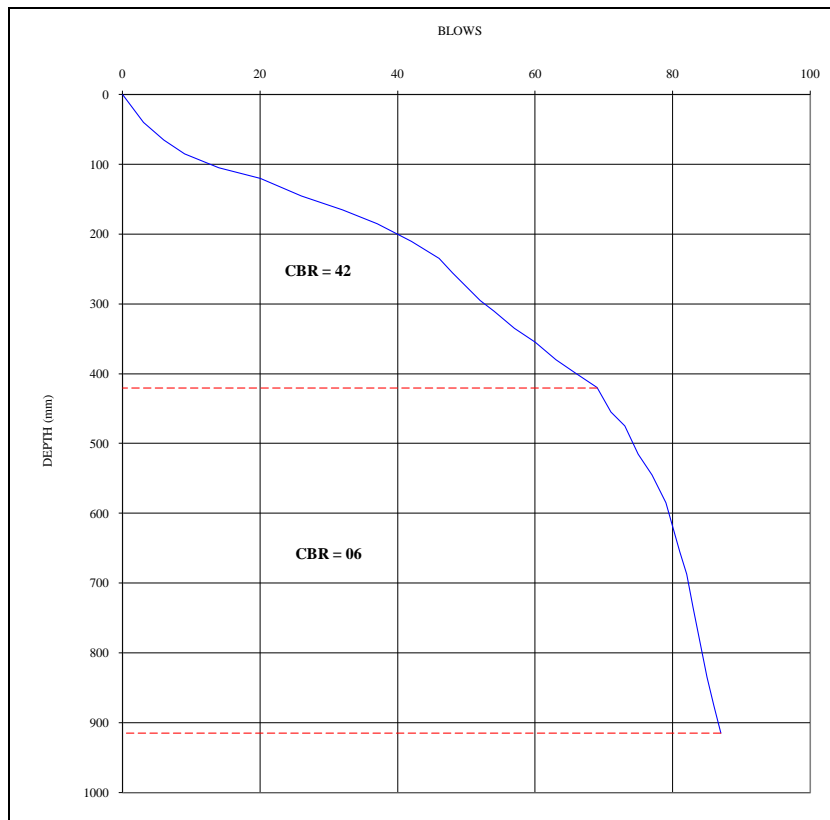
Figure B-69 DCP Profile



Location: Km 14+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 70**

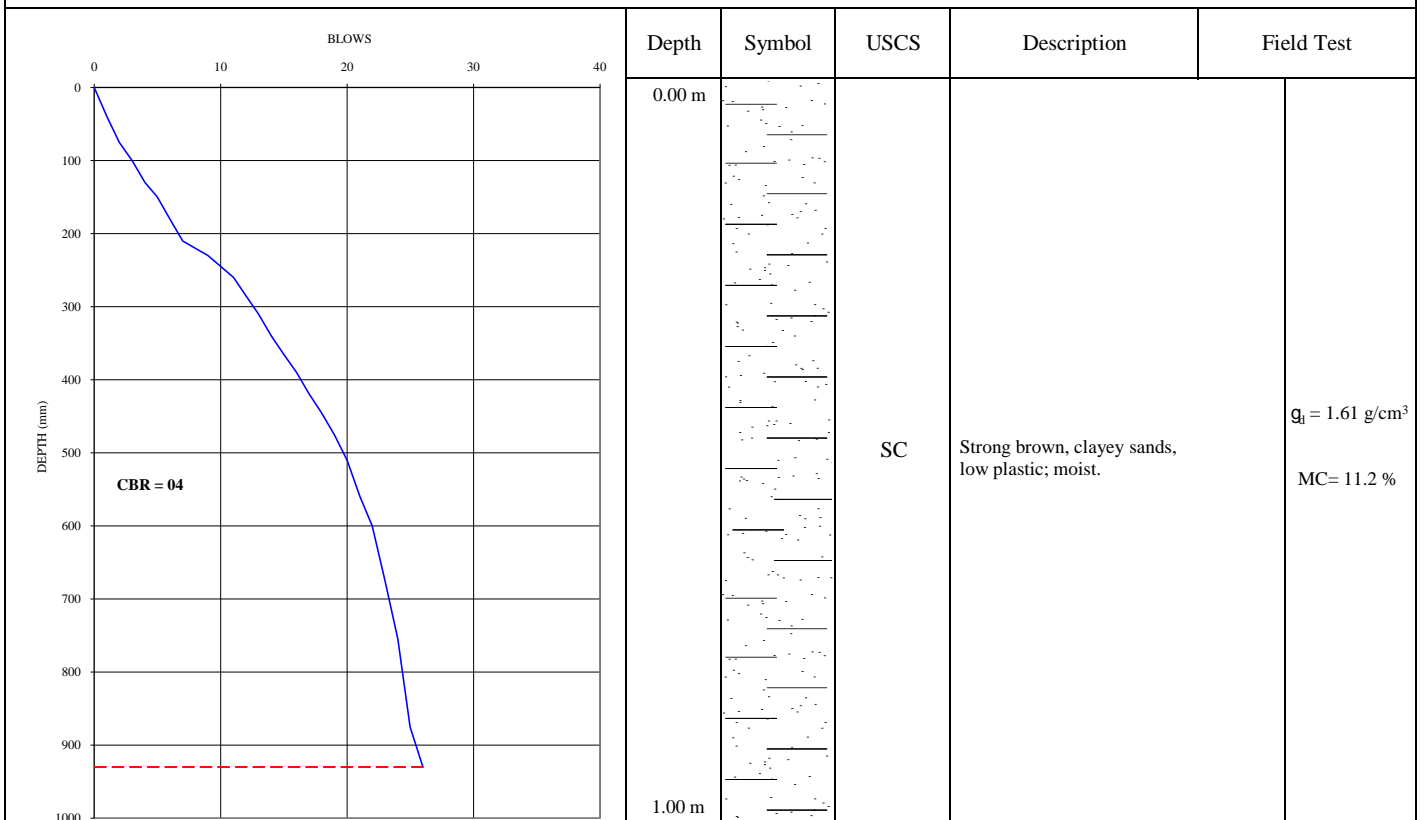
**Figure B-70 DCP Profile**



Location: Km 15+018, Lt/14.00 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 71

Test Pit No. 24

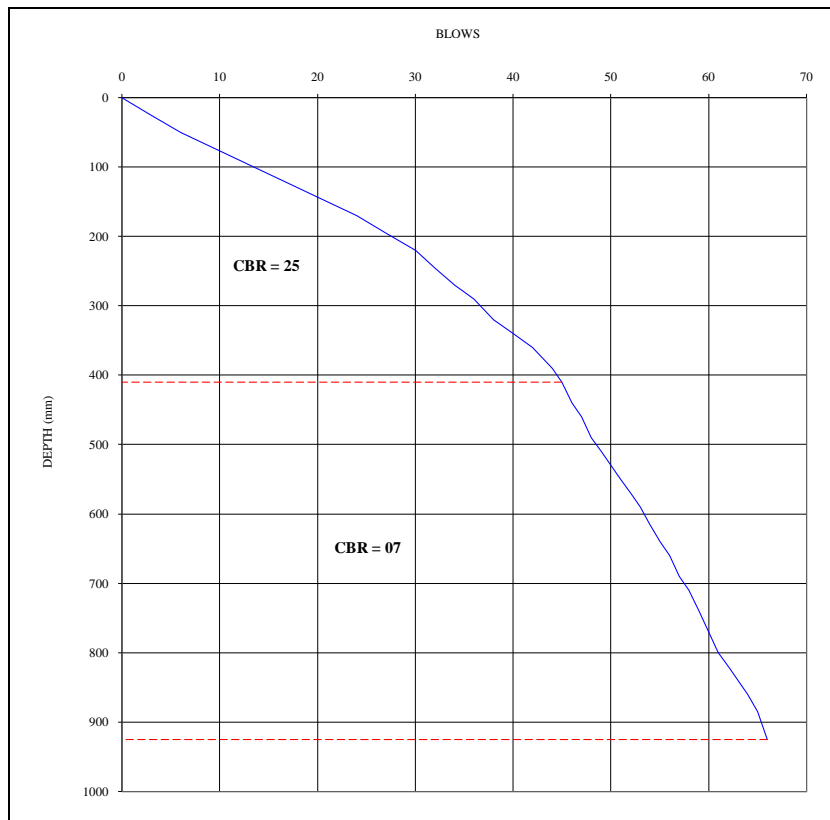
Figure B-71 DCP Profile and Test Pit Log



Location: Km 15+250, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 72**

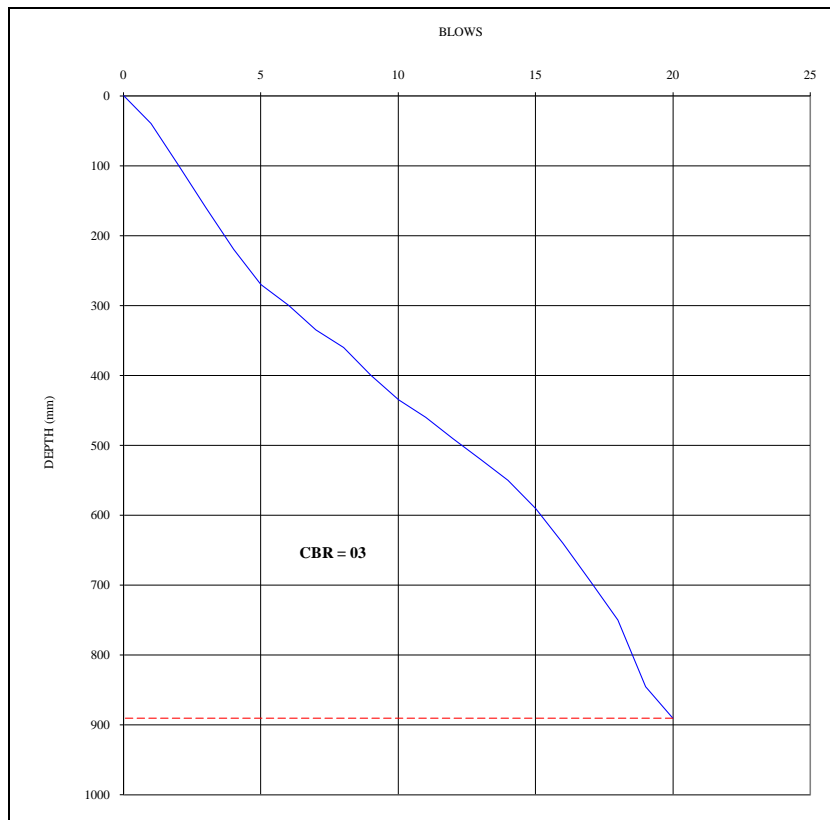
**Figure B-72 DCP Profile**



Location: Km 15+500, Lt/9.40 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 73**

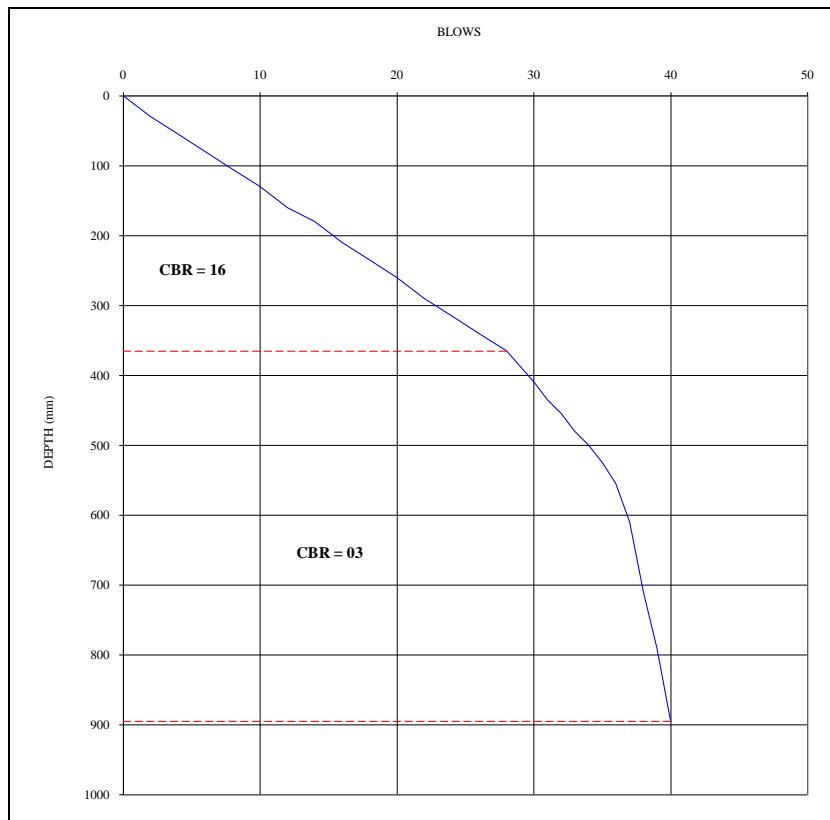
**Figure B-73 DCP Profile**



Location: Km 15+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



DCP Test No. 74

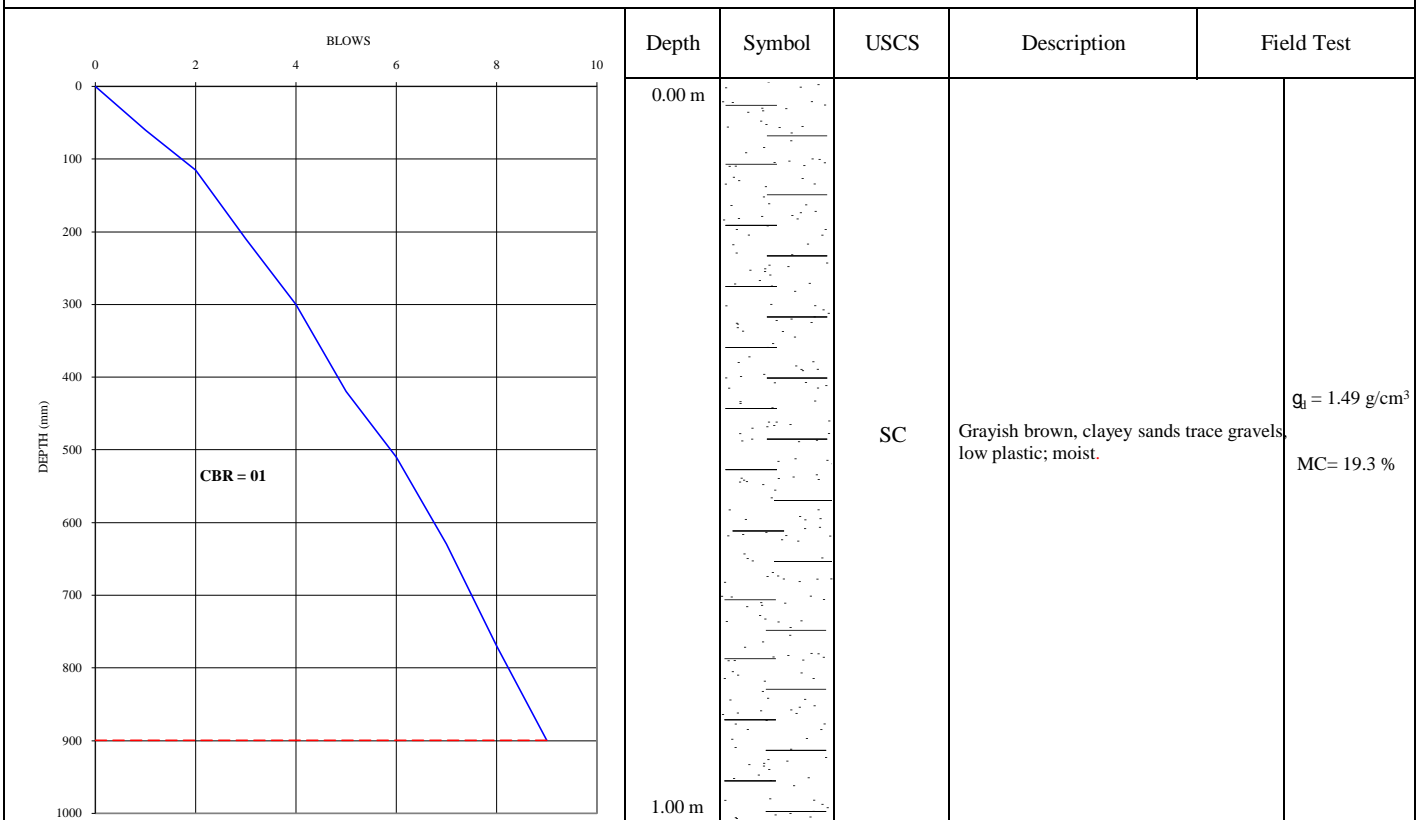
Figure B-74 DCP Profile



Location: Km 16+000, Lt/13.50 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 75

Test Pit No. 25

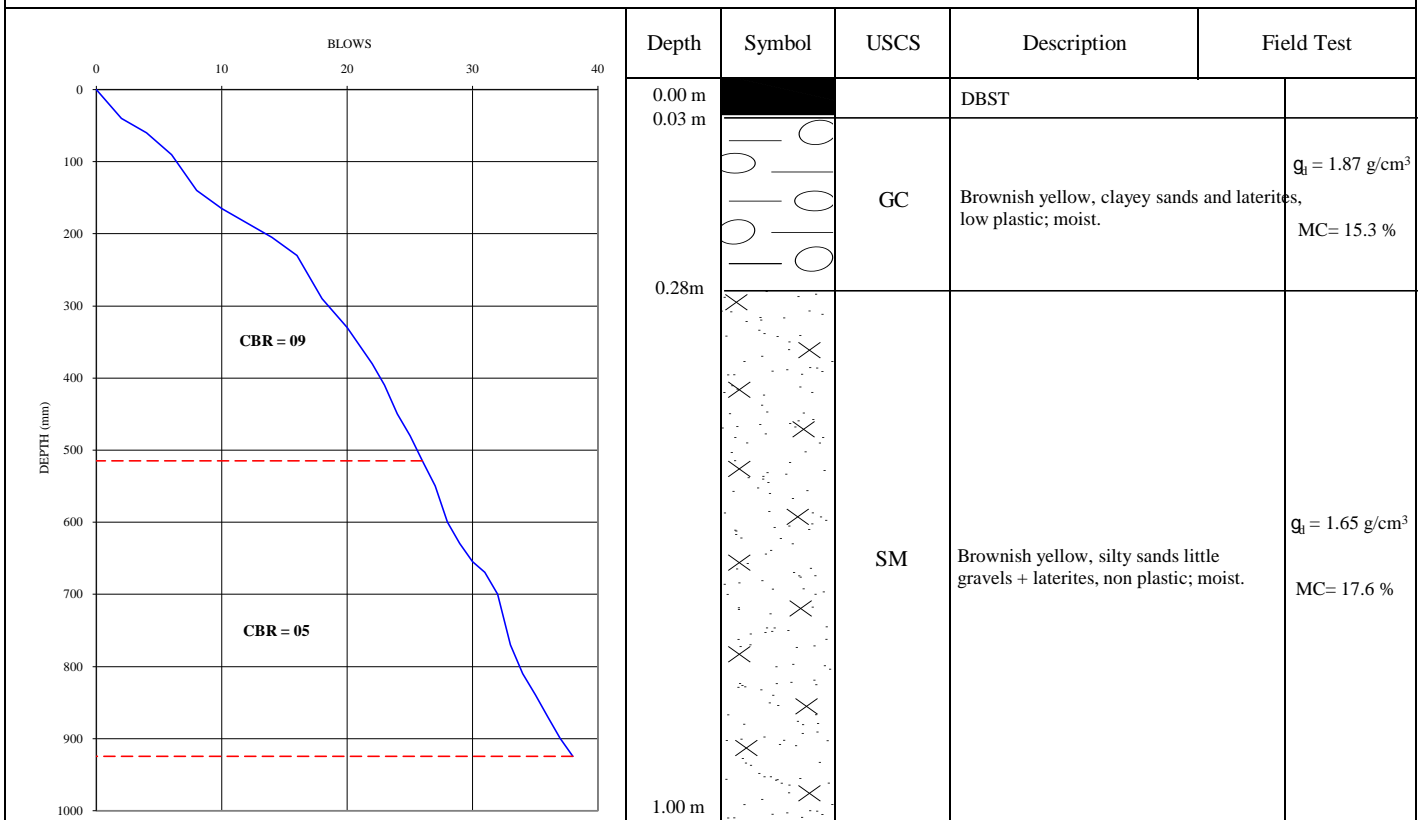
Figure B-75 DCP Profile and Test Pit Log



Location: Km 16+000, Rt/6.00 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 76

Test Pit No. 26

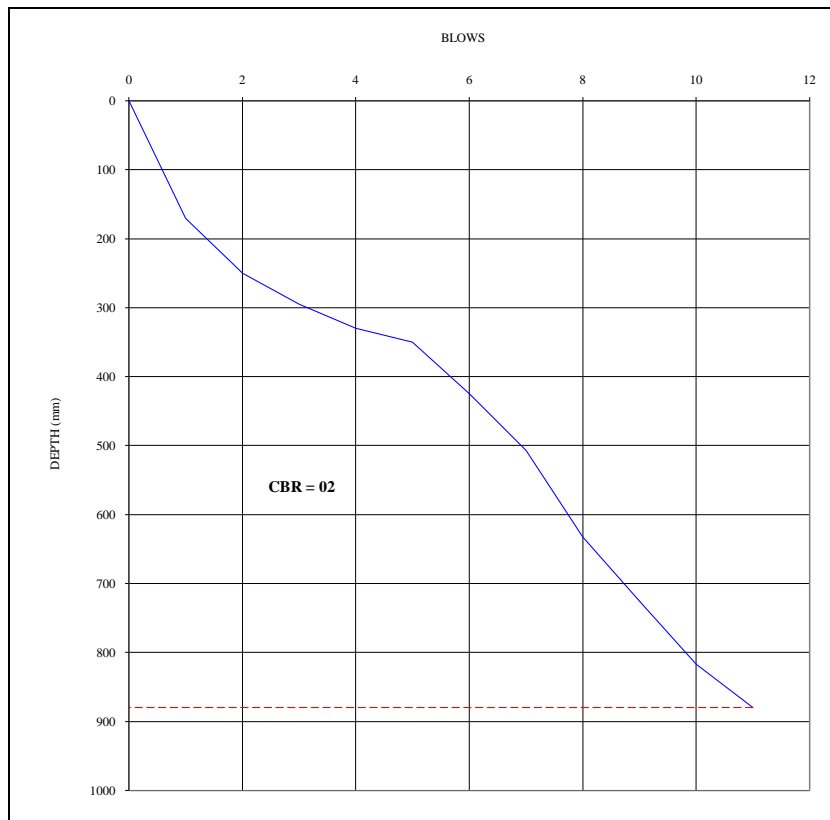
Figure B-76 DCP Profile and Test Pit Log



Location: Km 16+250, Lt/9.70 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 77**

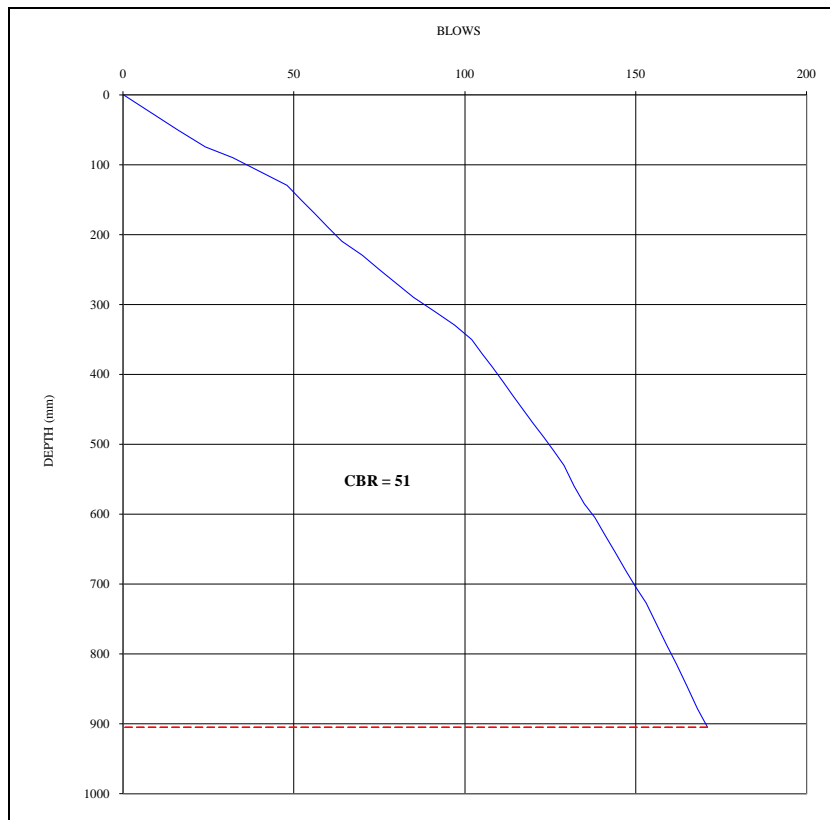
**Figure B-77 DCP Profile**



Location: Km 16+500, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 78**

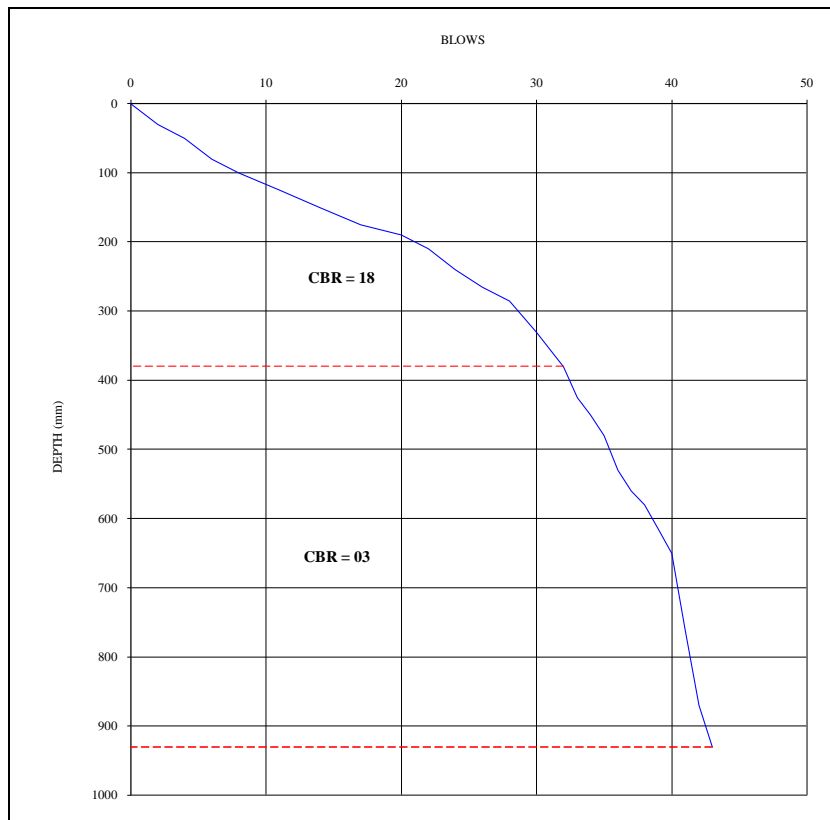
**Figure B-78 DCP Profile**



Location: Km 16+750, Lt/11.20 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



DCP Test No. 79

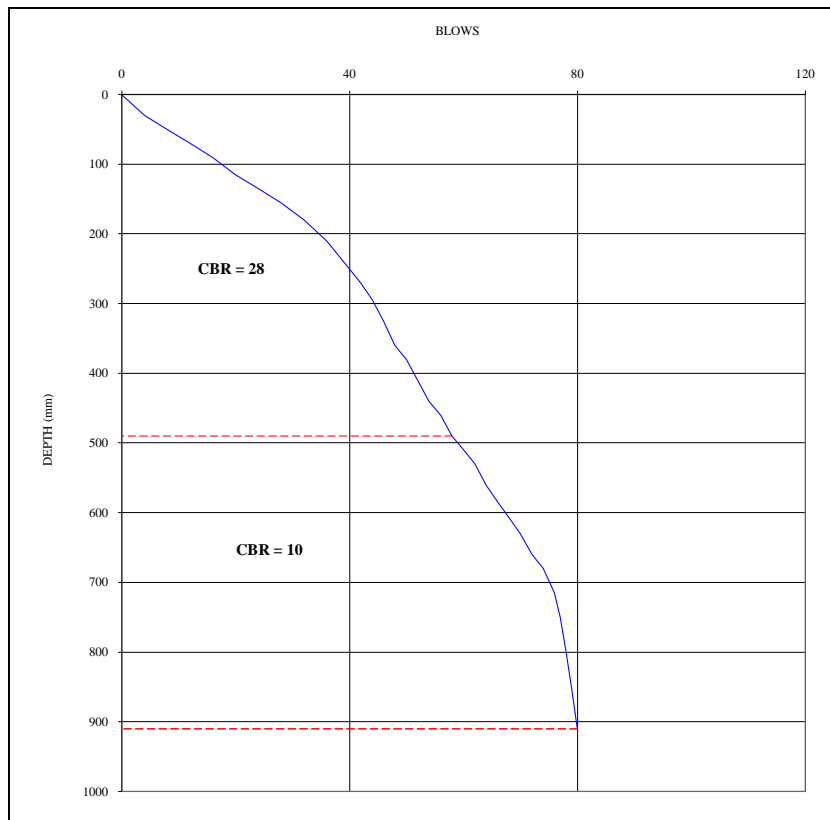
Figure B-79 DCP Profile



Location: Km 17+000, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 80**

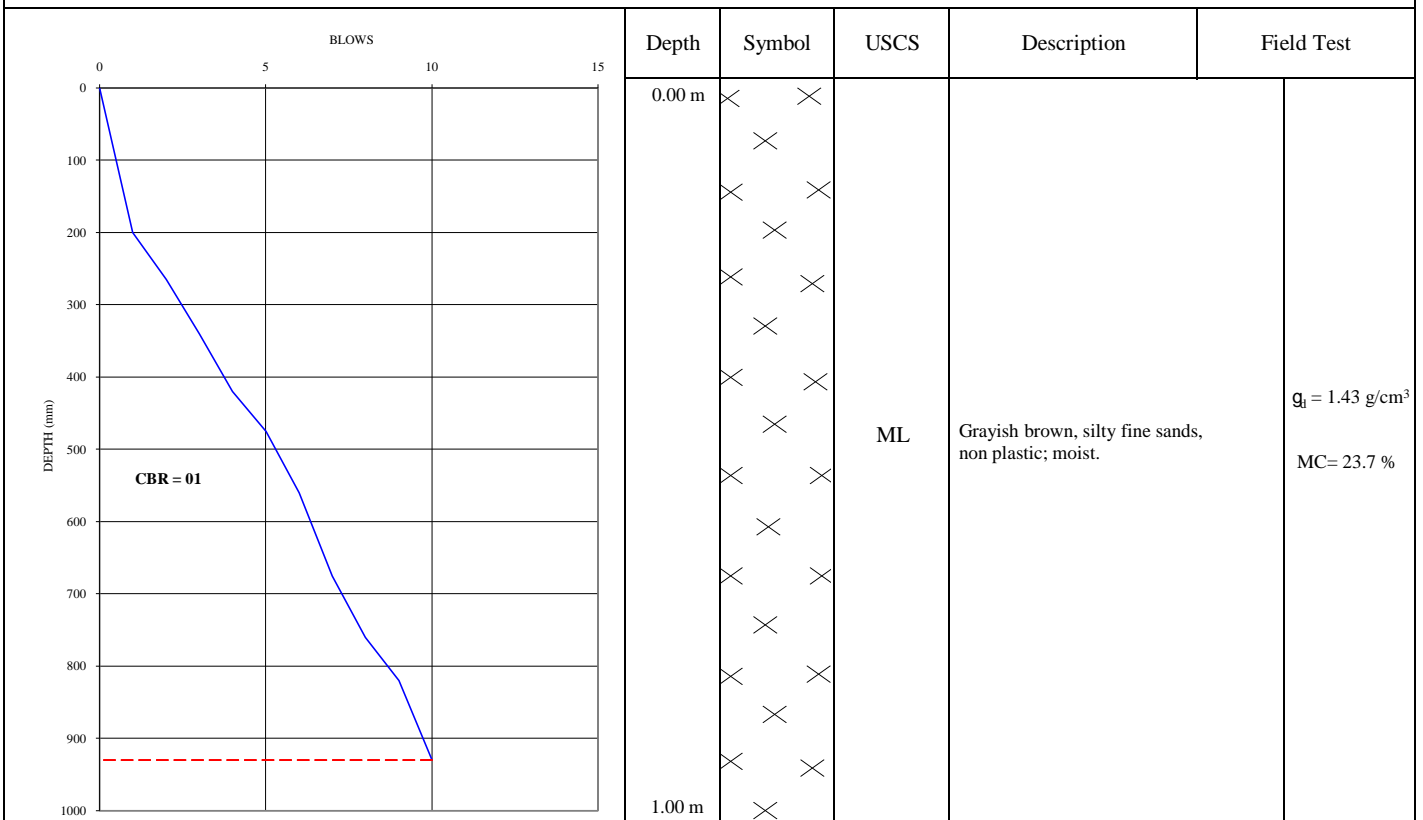
**Figure B-80 DCP Profile**



Location: Km 17+000, Lt/10.50 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



**DCP Test No. 81**

**Test Pit No. 27**

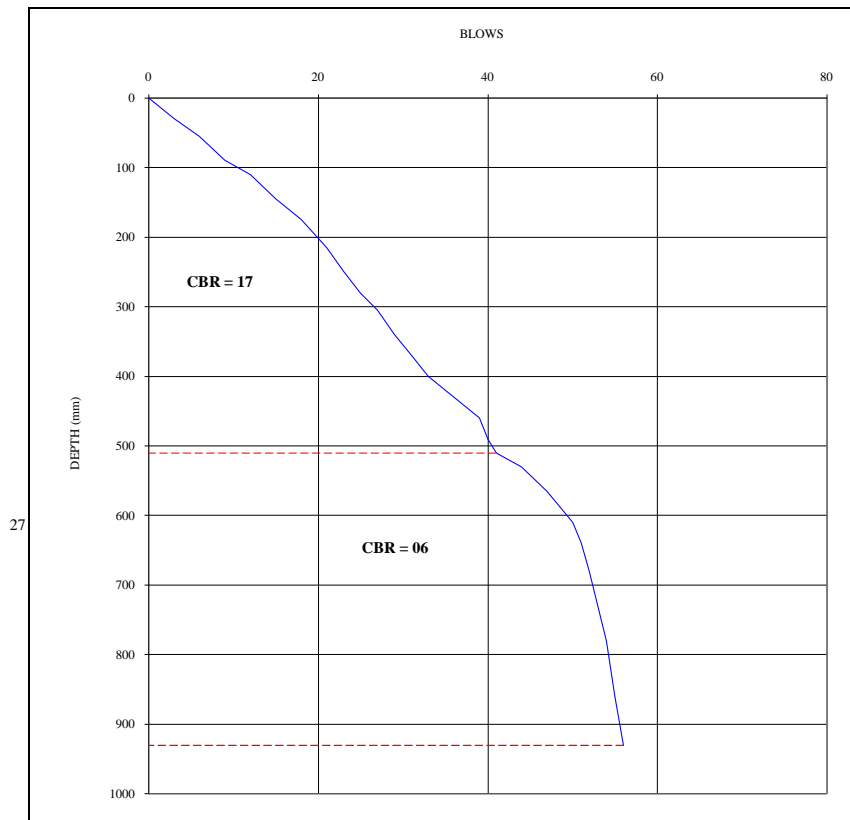
**Figure B-81 DCP Profile and Test Pit Log**



Location: Km 17+250, Rt/5.30 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No.82**

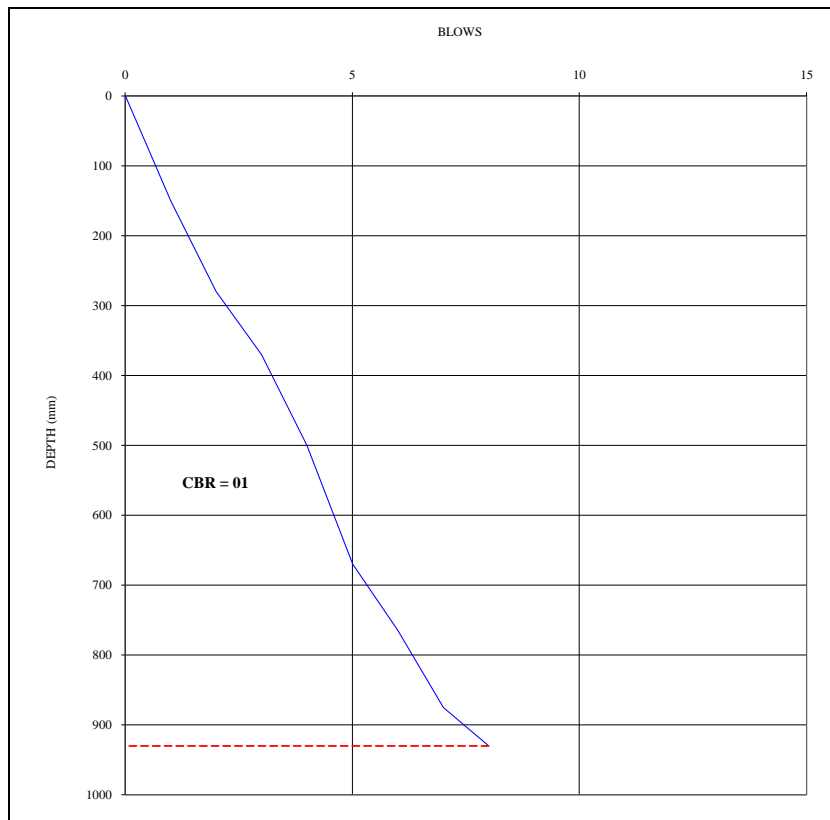
**Figure B-82 DCP Profile**



Location: Km 17+500, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 83**

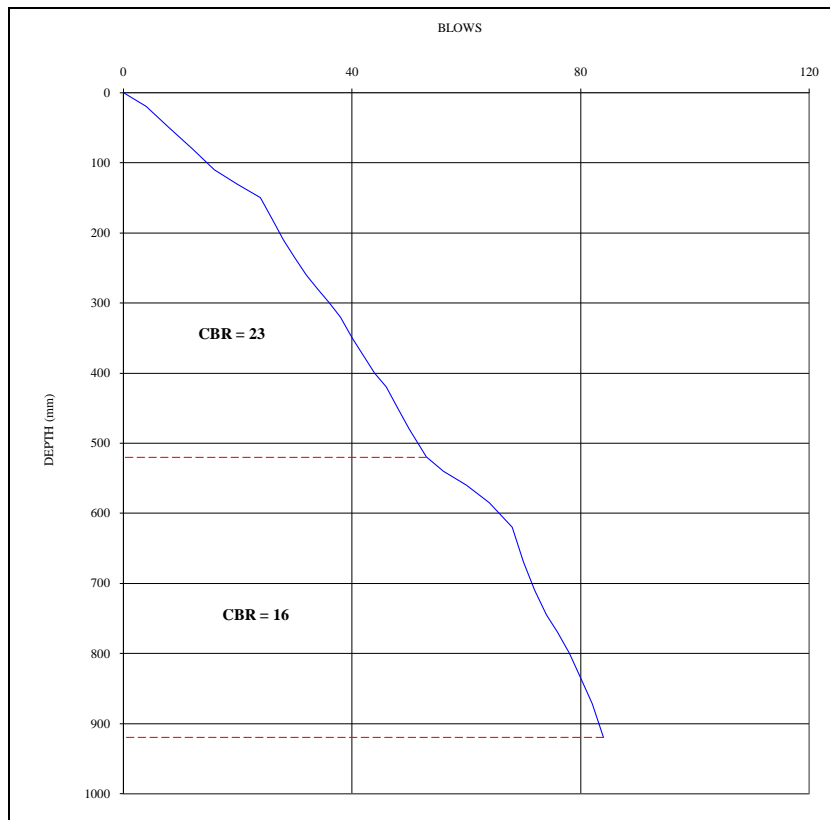
**Figure B-83 DCP Profile**



Location: Km 17+750, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



DCP Test No. 84

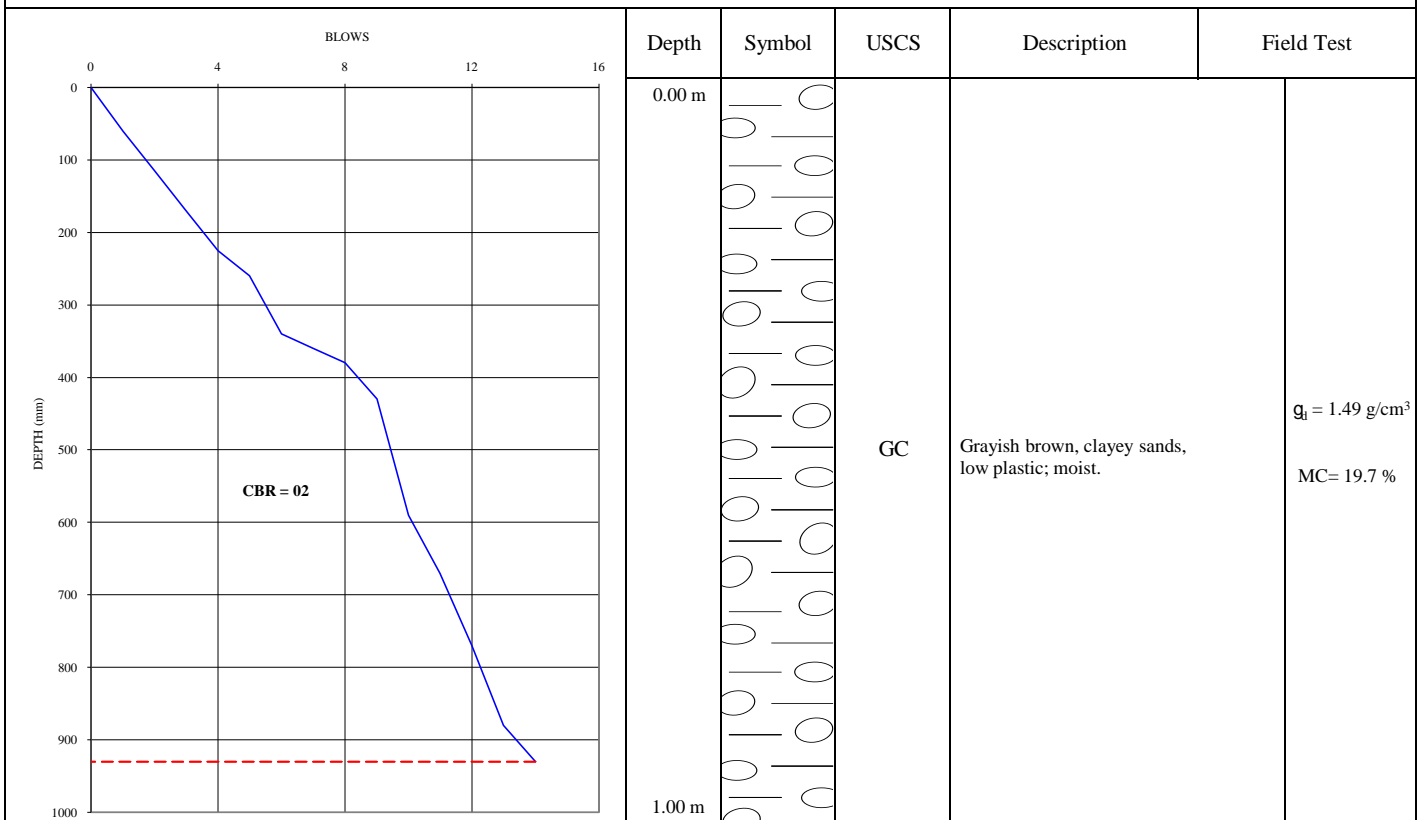
Figure B-84 DCP Profile



Location: Km 18+000, Lt/13.00 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 85

Test Pit No. 28

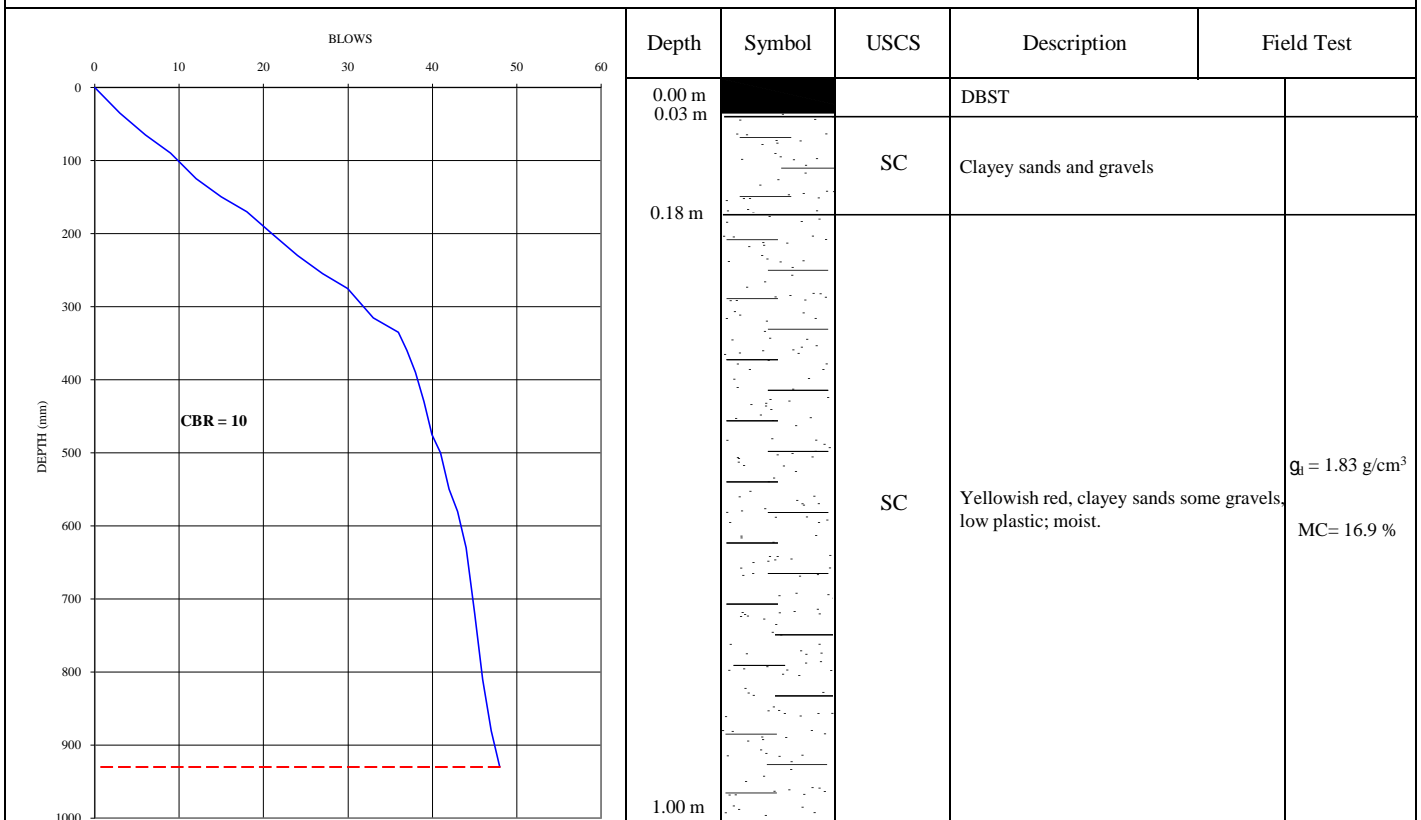
Figure B-85 DCP Profile and Test Pit Log



Location: Km 18+000, Rt/5.50 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 86

Test Pit No. 29

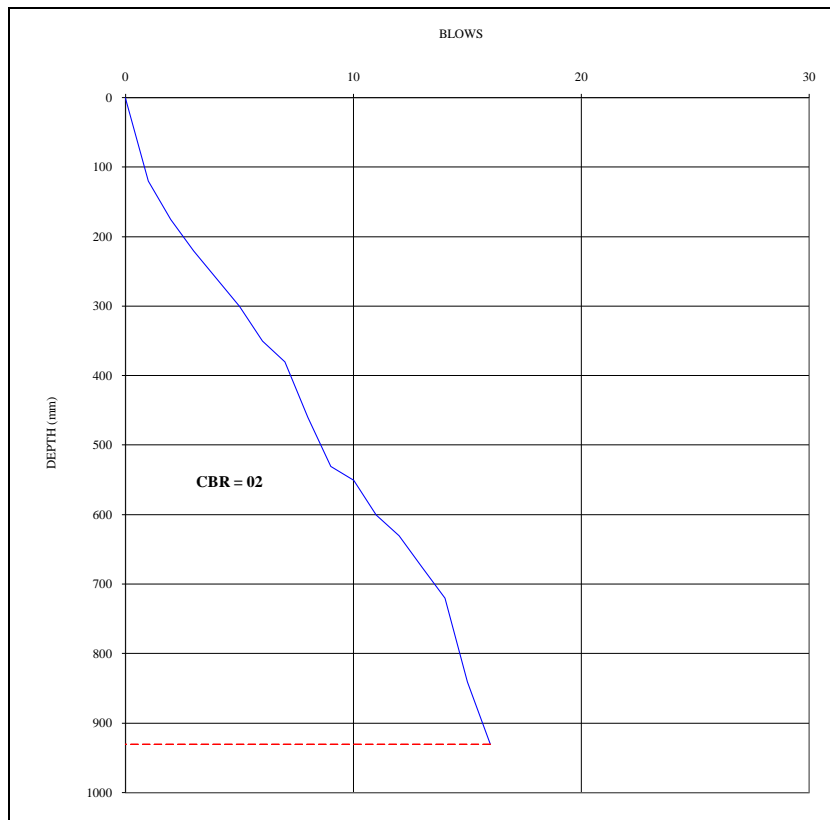
Figure B-86 DCP Profile and Test Pit Log



Location: Km 18+250, Lt/12.80 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 87**

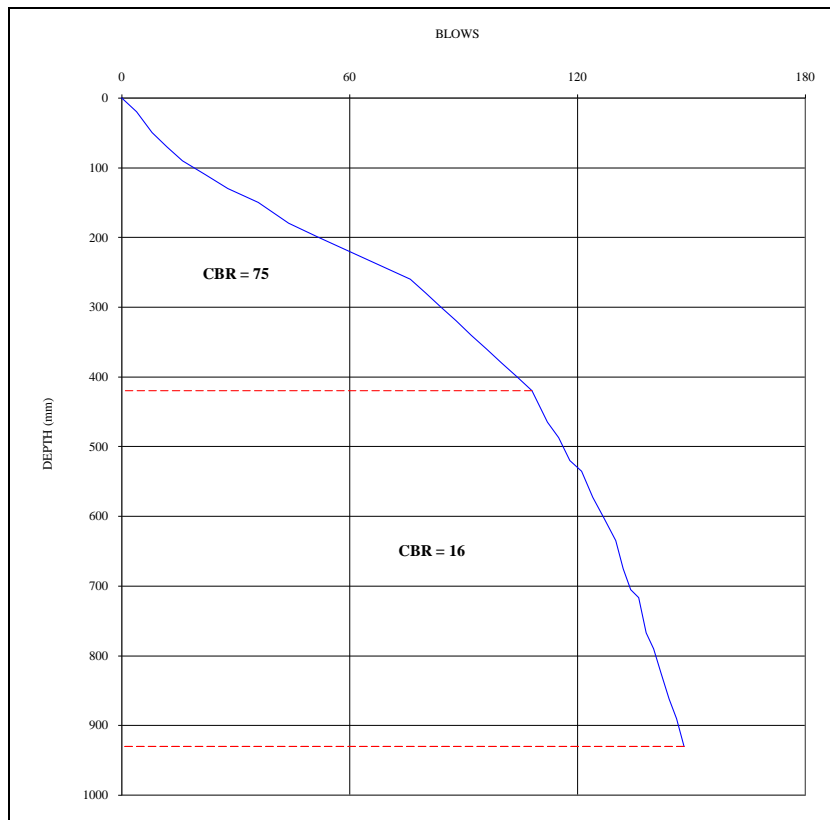
**Figure B-87 DCP Profile**



Location: Km 18+500, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 88**

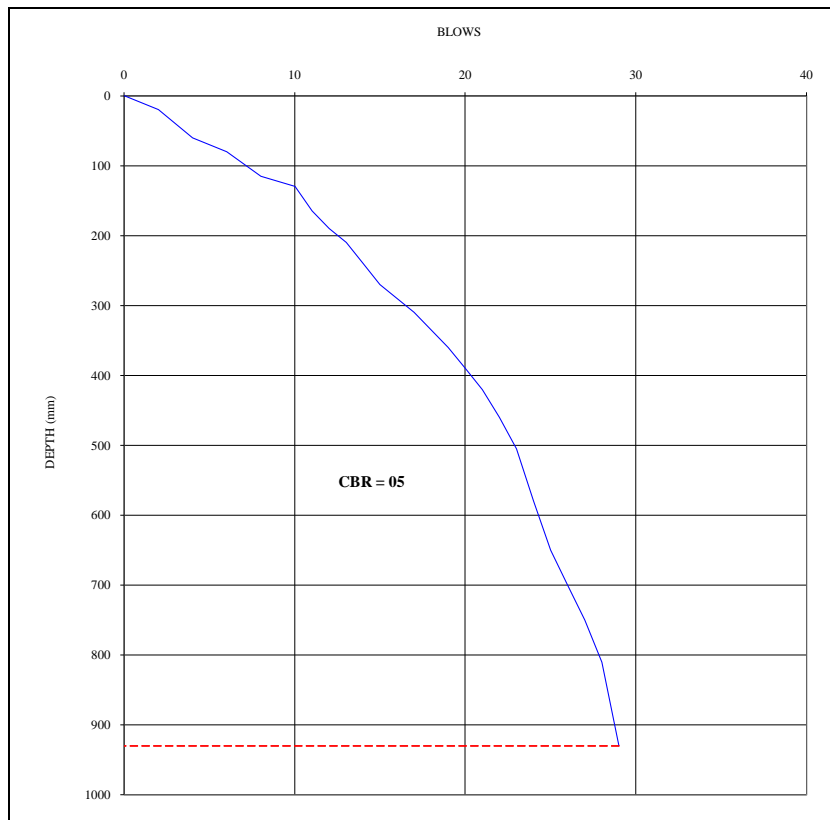
**Figure B-88 DCP Profile**



Location: Km 18+750, Lt/13.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



DCP Test No. 89

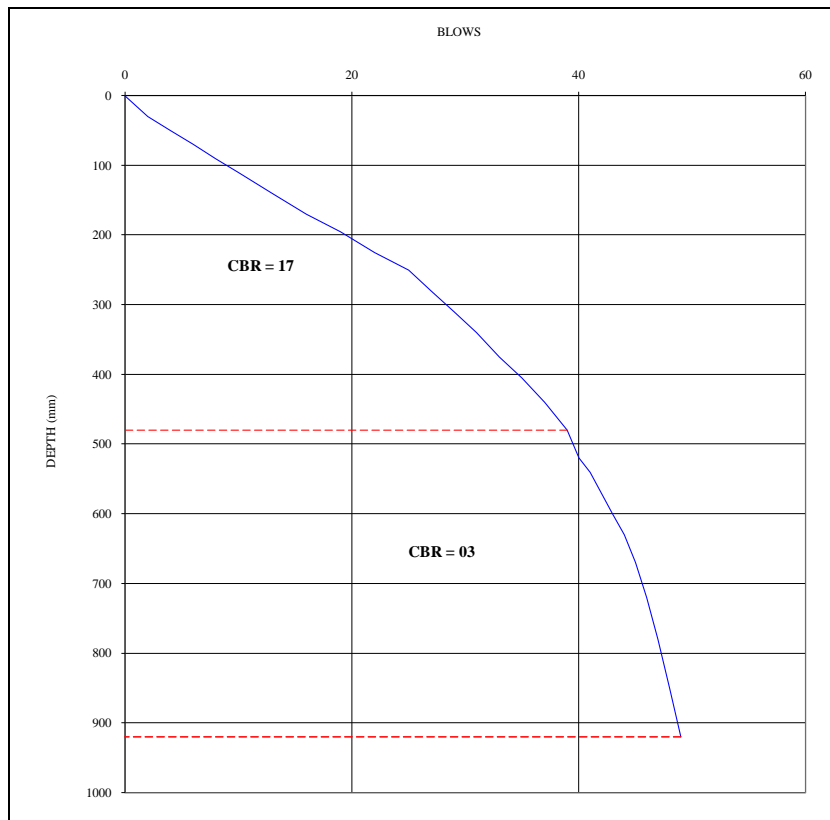
Figure B-89 DCP Profile



Location: Km 19+000, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 90**

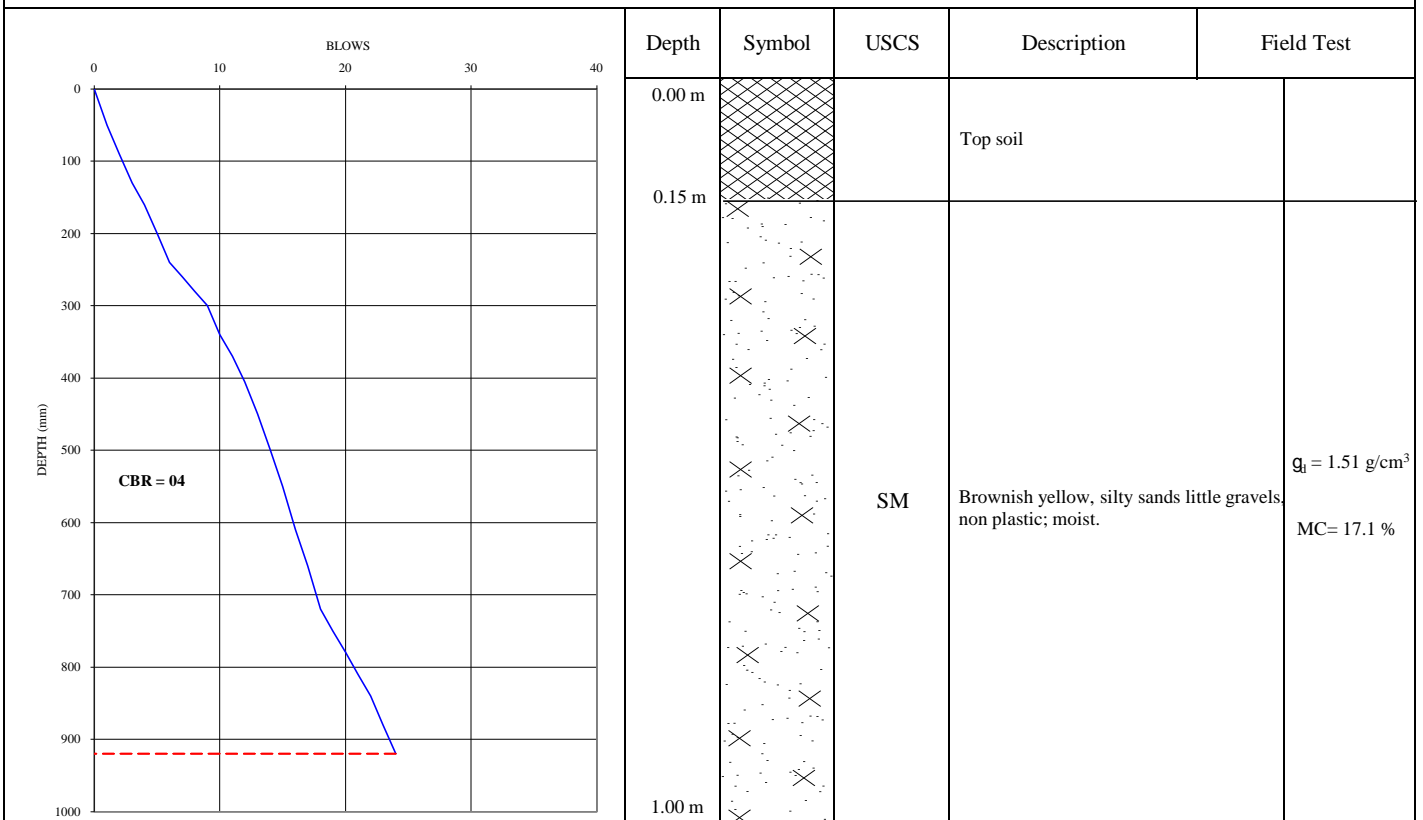
**Figure B-90 DCP Profile**



Location: Km 19+000, Lt/12.00 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 91

Test Pit No. 30

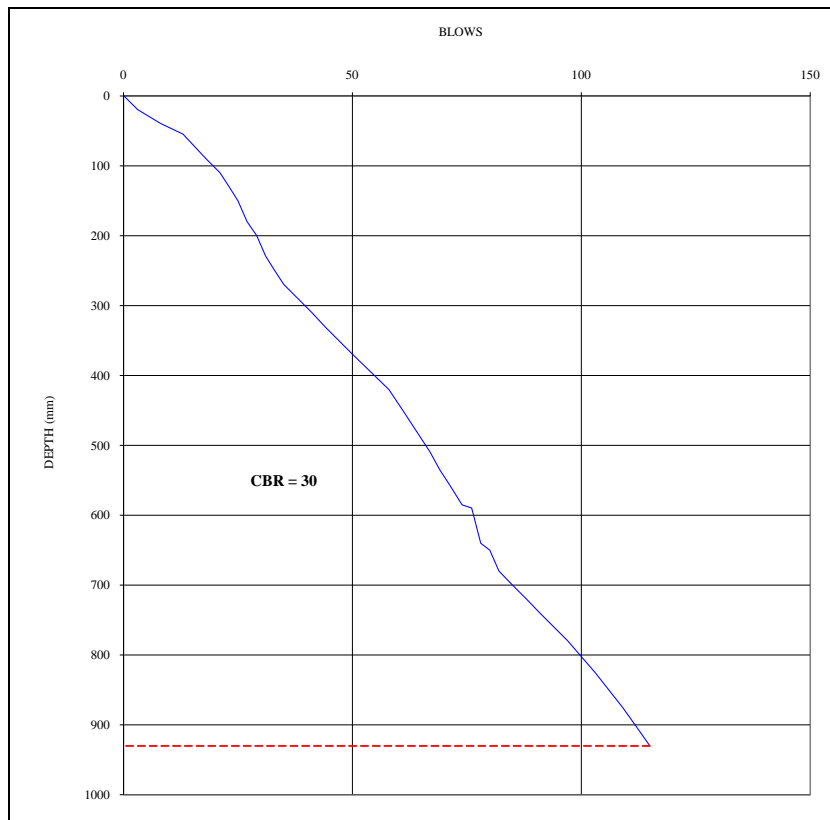
Figure B-91 DCP Profile and Test Pit Log



Location: Km 19+250, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 92**

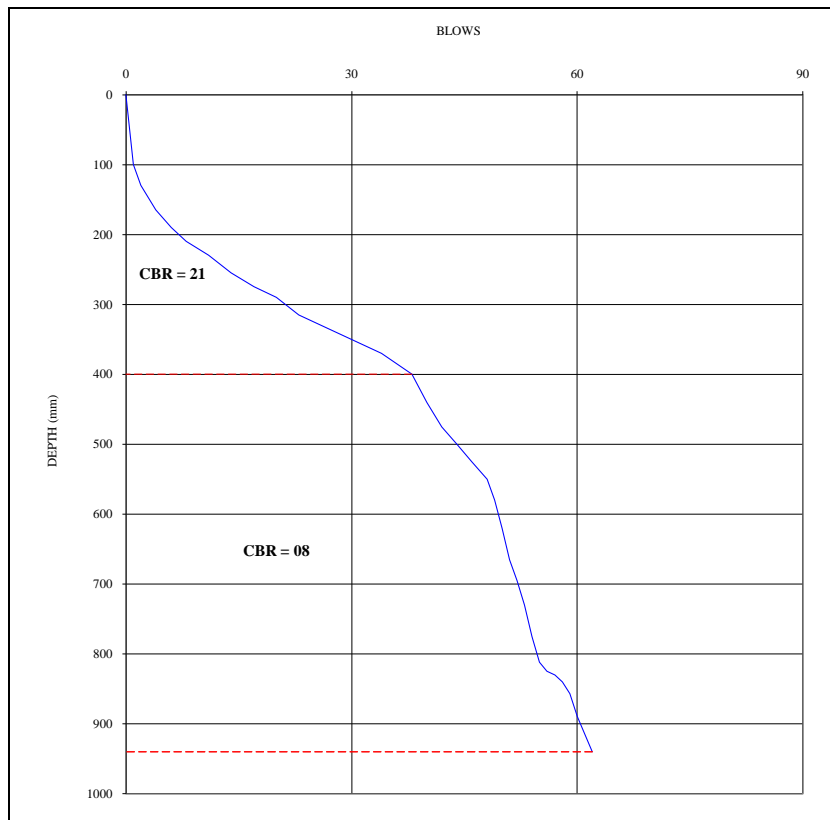
**Figure B-92 DCP Profile**



Location: Km 19+500, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 93**

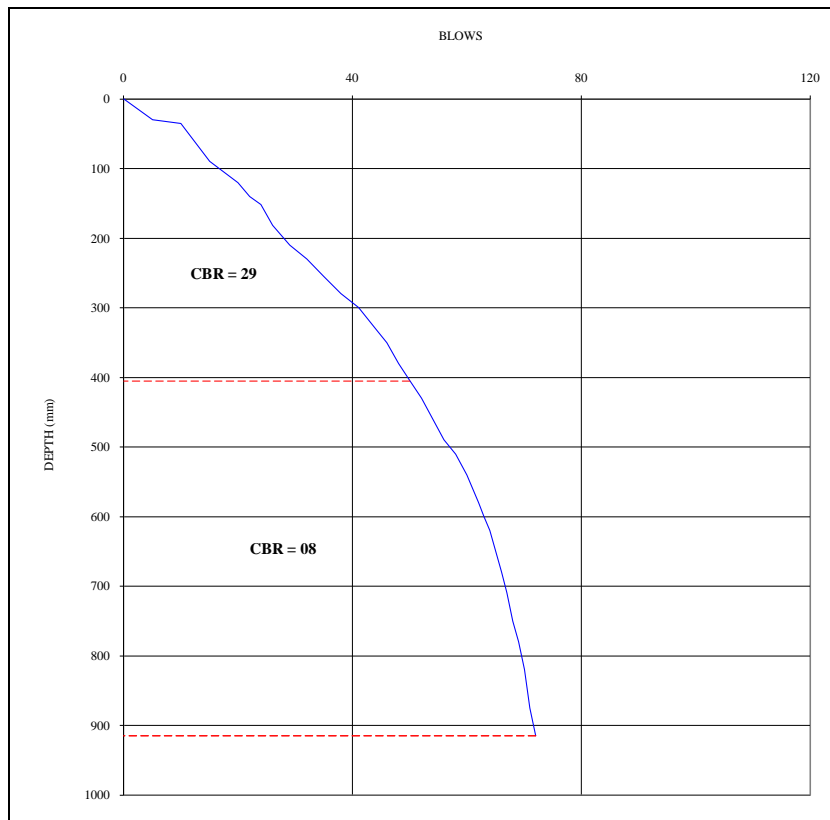
**Figure B-93 DCP Profile**



Location: Km 19+750, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



DCP Test No. 94

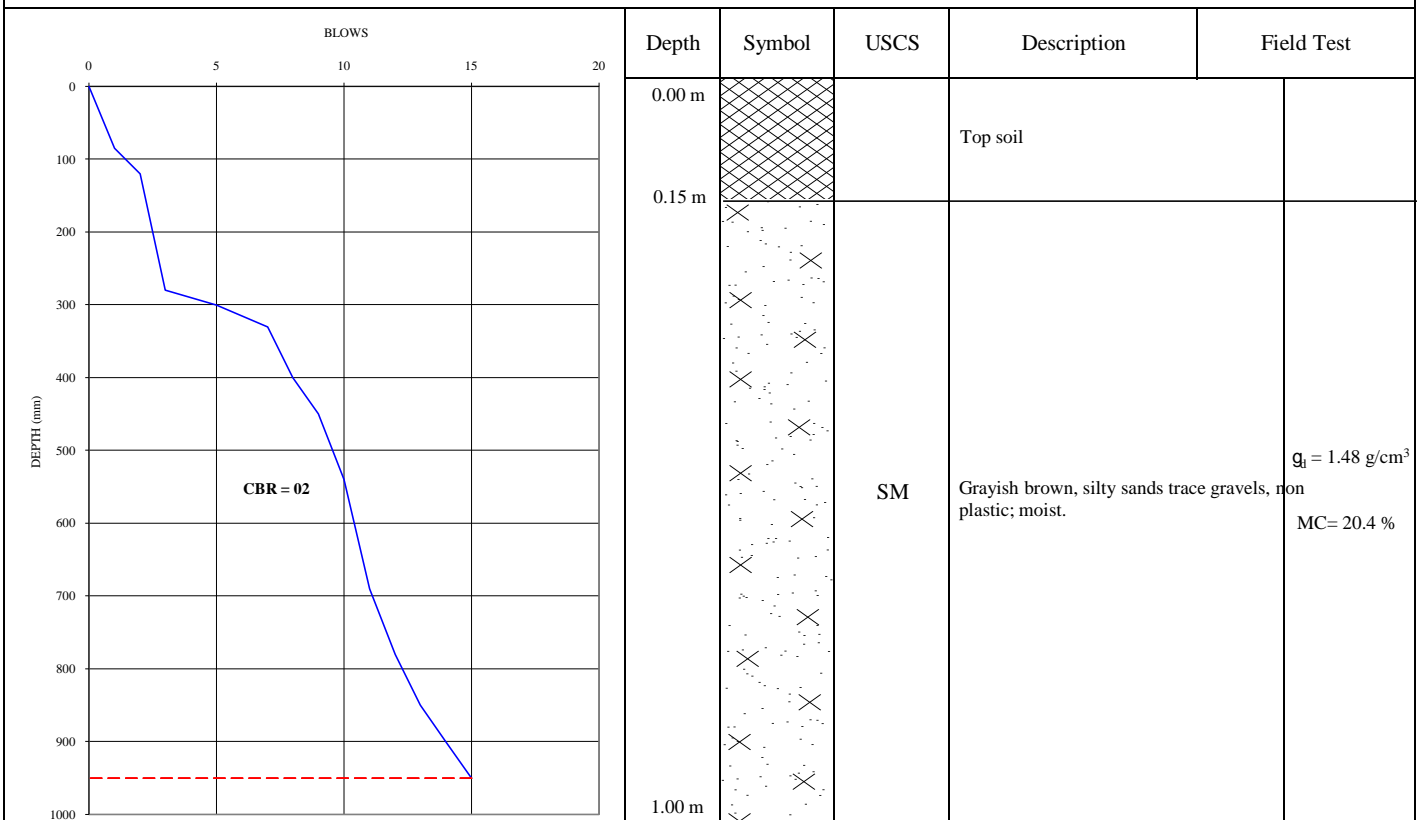
Figure B-94 DCP Profile



Location: Km 20+000, Lt/11.00 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 95

Test Pit No. 31

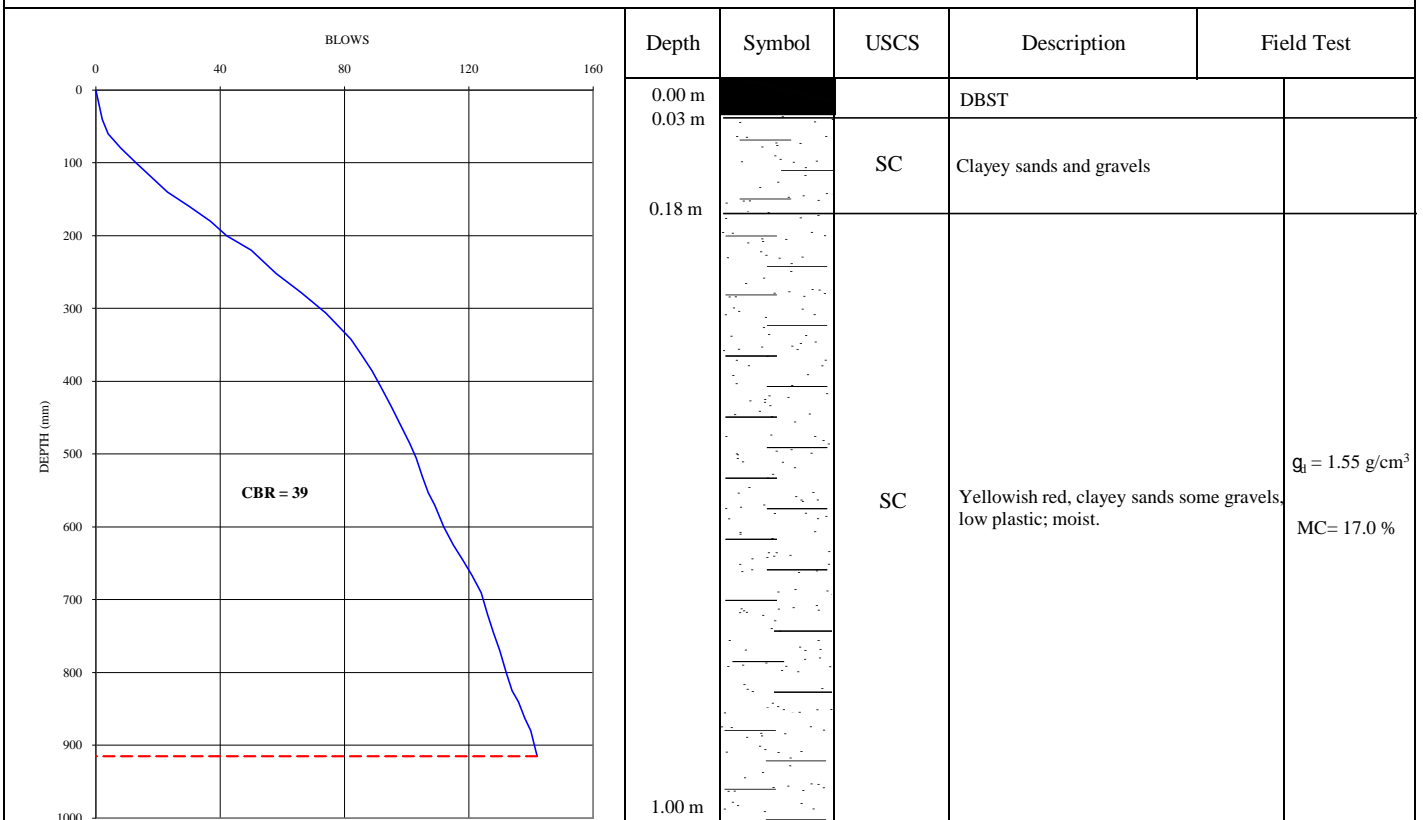
Figure B-95 DCP Profile and Test Pit Log



Location: Km 20+000, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



DCP Test No. 96

Test Pit No. 32

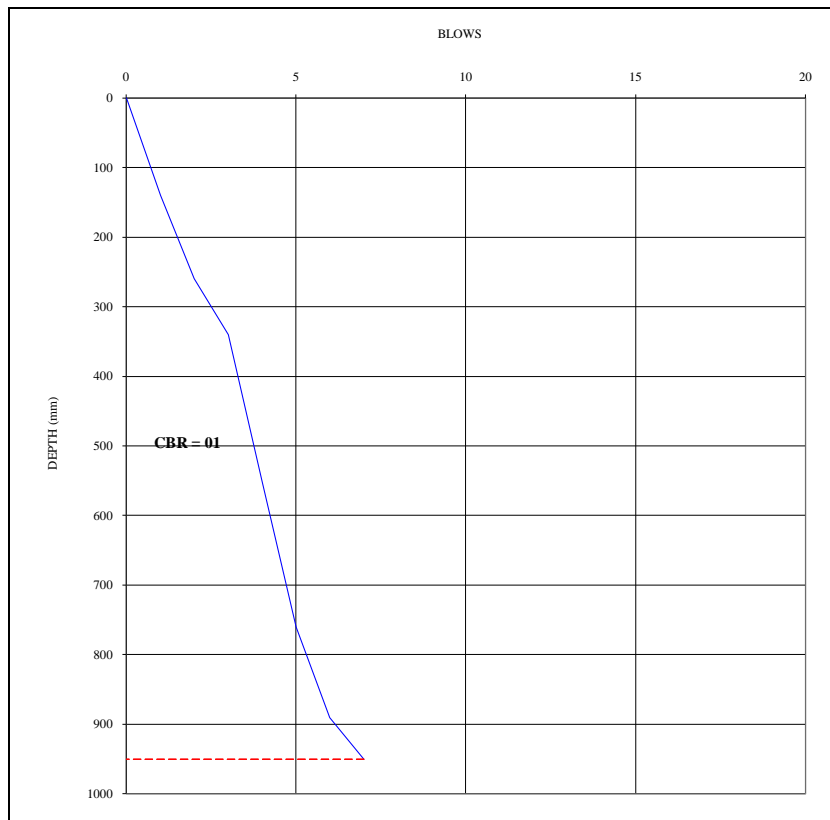
Figure B-96 DCP Profile and Test Pit Log



Location: Km 20+250, Lt/12.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



DCP Test No. 97

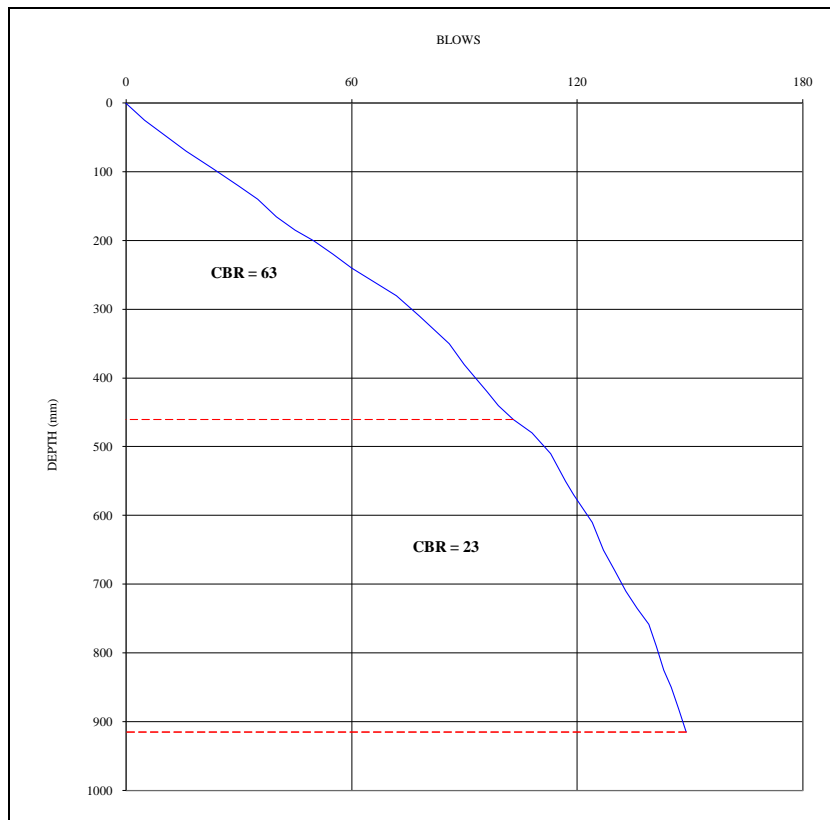
Figure B-97 DCP Profile



Location: Km 20+500, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 98**

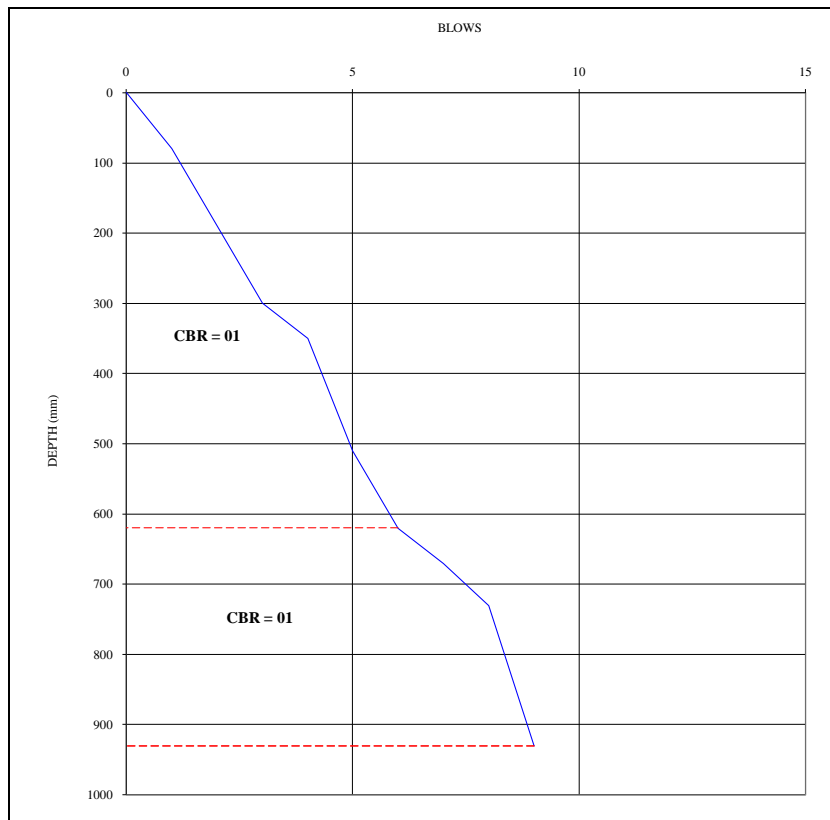
**Figure B-98 DCP Profile**



Location: Km 20+750, Lt/15.20 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 99**

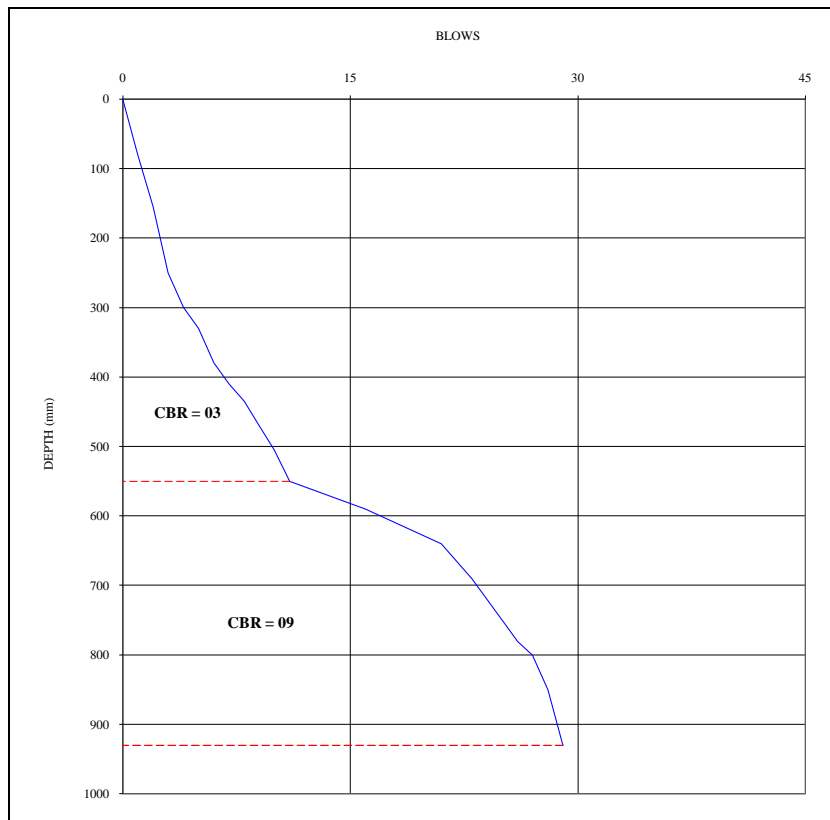
**Figure B-99 DCP Profile**



Location: Km 21+000, Lt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 06/08/2017



**DCP Test No. 100**

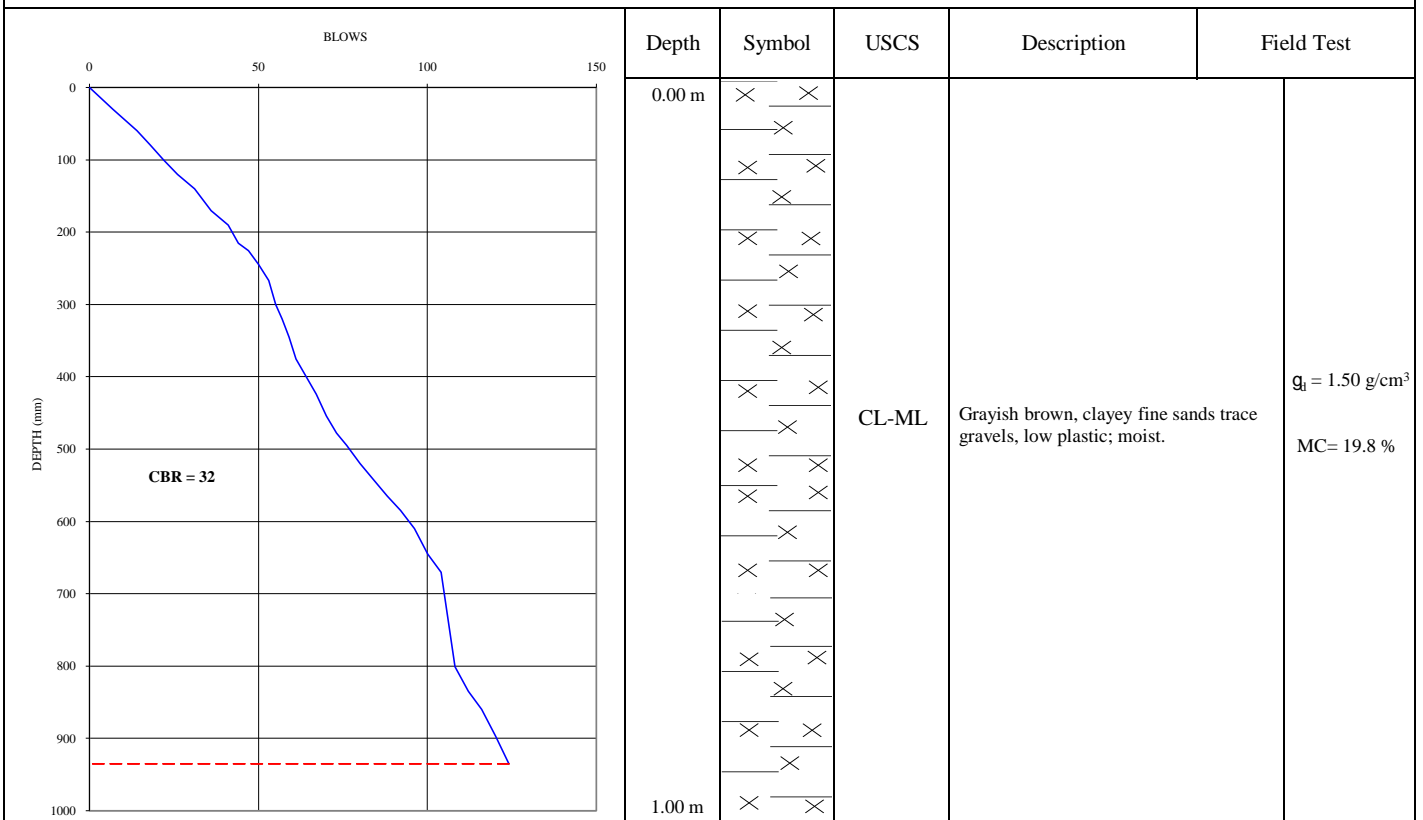
**Figure B-100 DCP Profile**



Location: Km 21+050, Lt/14.00 m

Depth: 0.00m - 1.00 m

Date : 08/08/2017



**DCP Test No. 101**

**Test Pit No. 33**

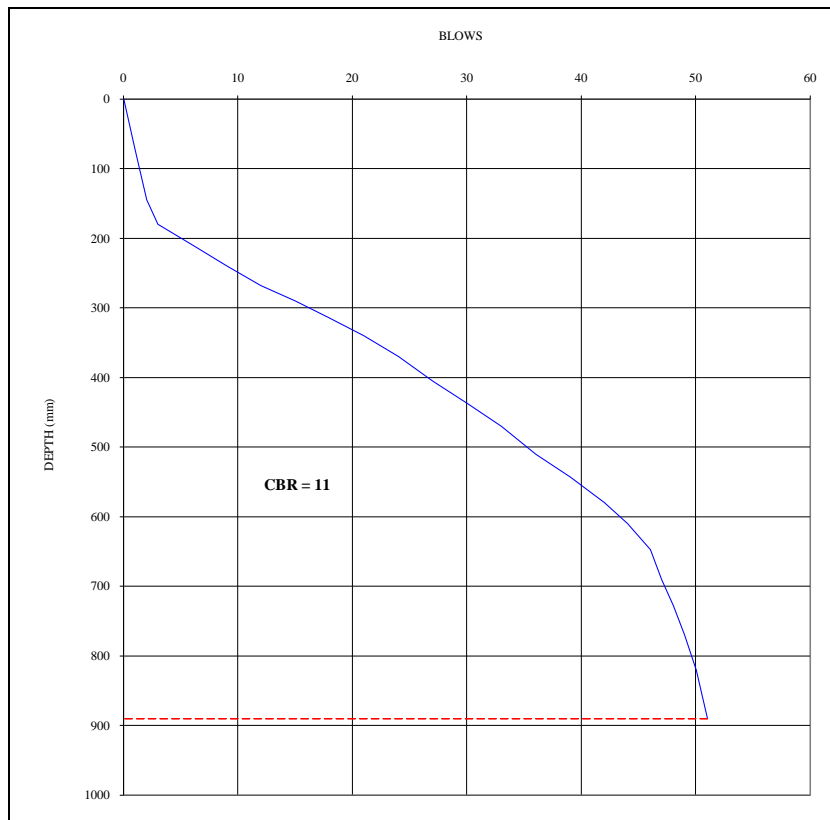
**Figure B-101 DCP Profile and Test Pit Log**



Location: Km 21+050, Lt/14.00 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 102**

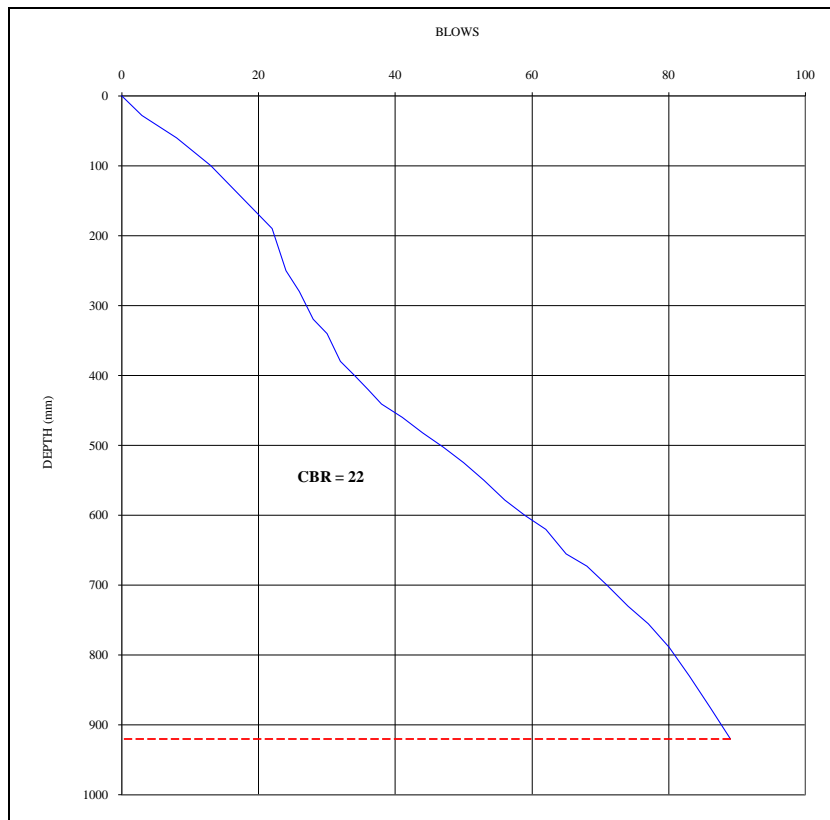
**Figure B-102 DCP Profile**



Location: Km 21+250, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 103**

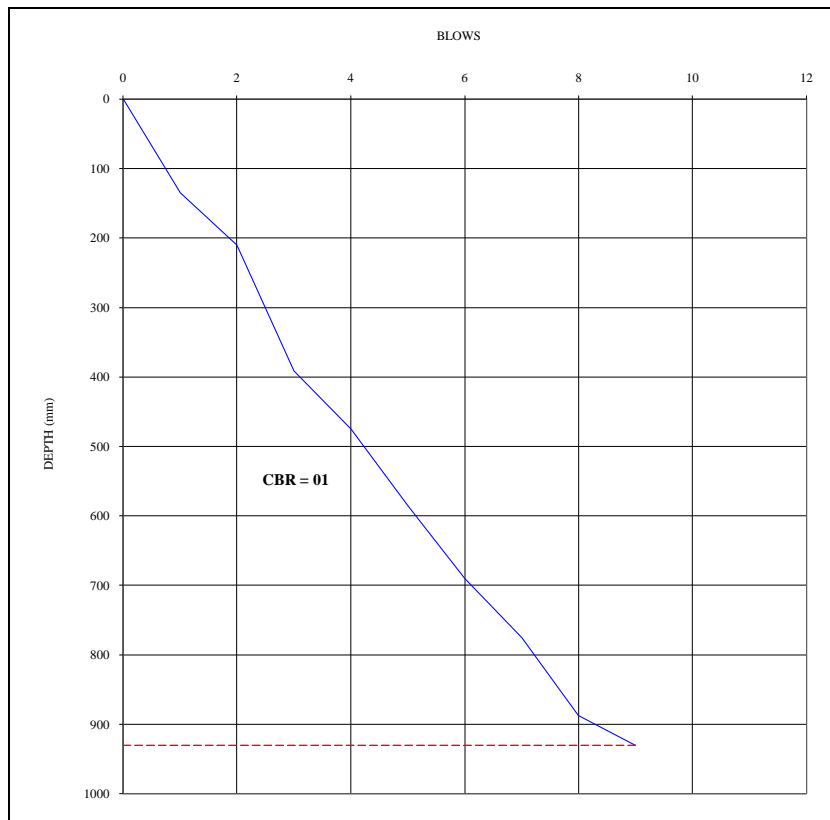
**Figure B-103 DCP Profile**



Location: Km 21+500, Lt/11.50 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 104**

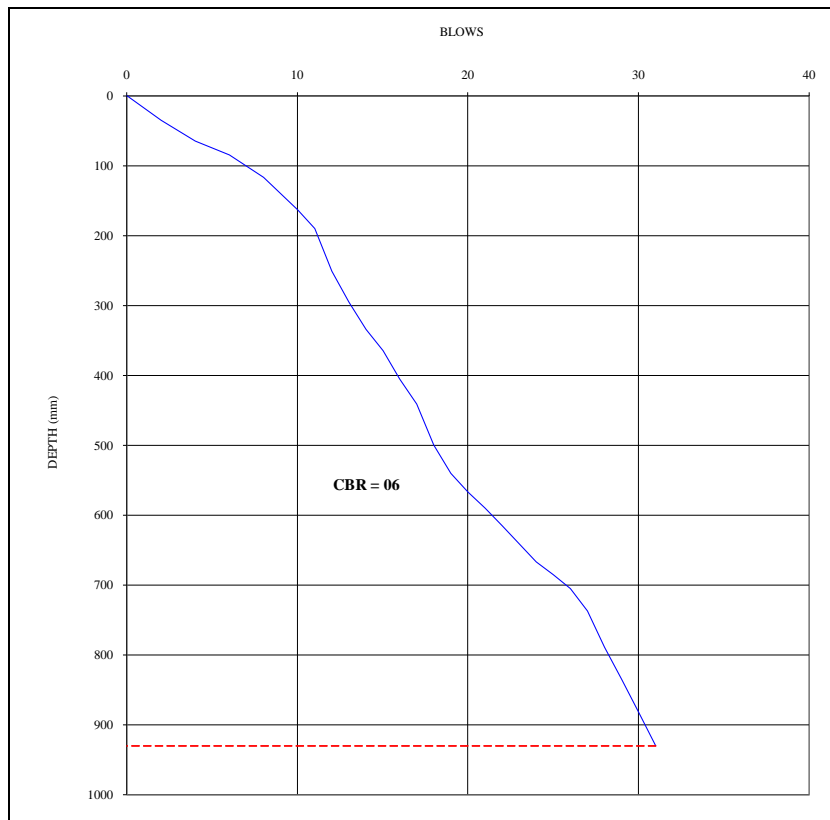
**Figure B-104 DCP Profile**



Location: Km 21+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 105**

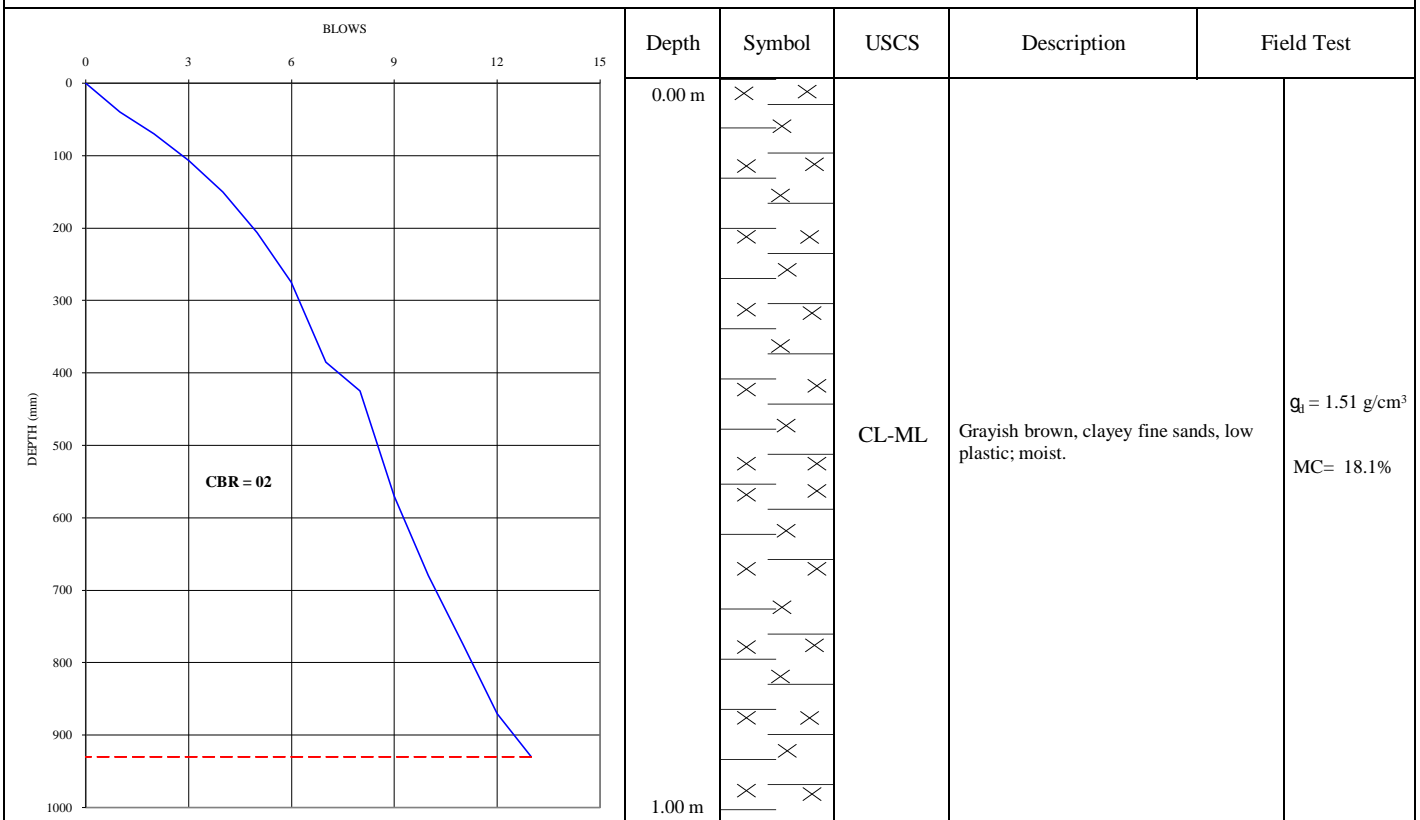
**Figure B-105 DCP Profile**



Location: Km 22+000, Lt/15.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



DCP Test No. 106

Test Pit No. 34

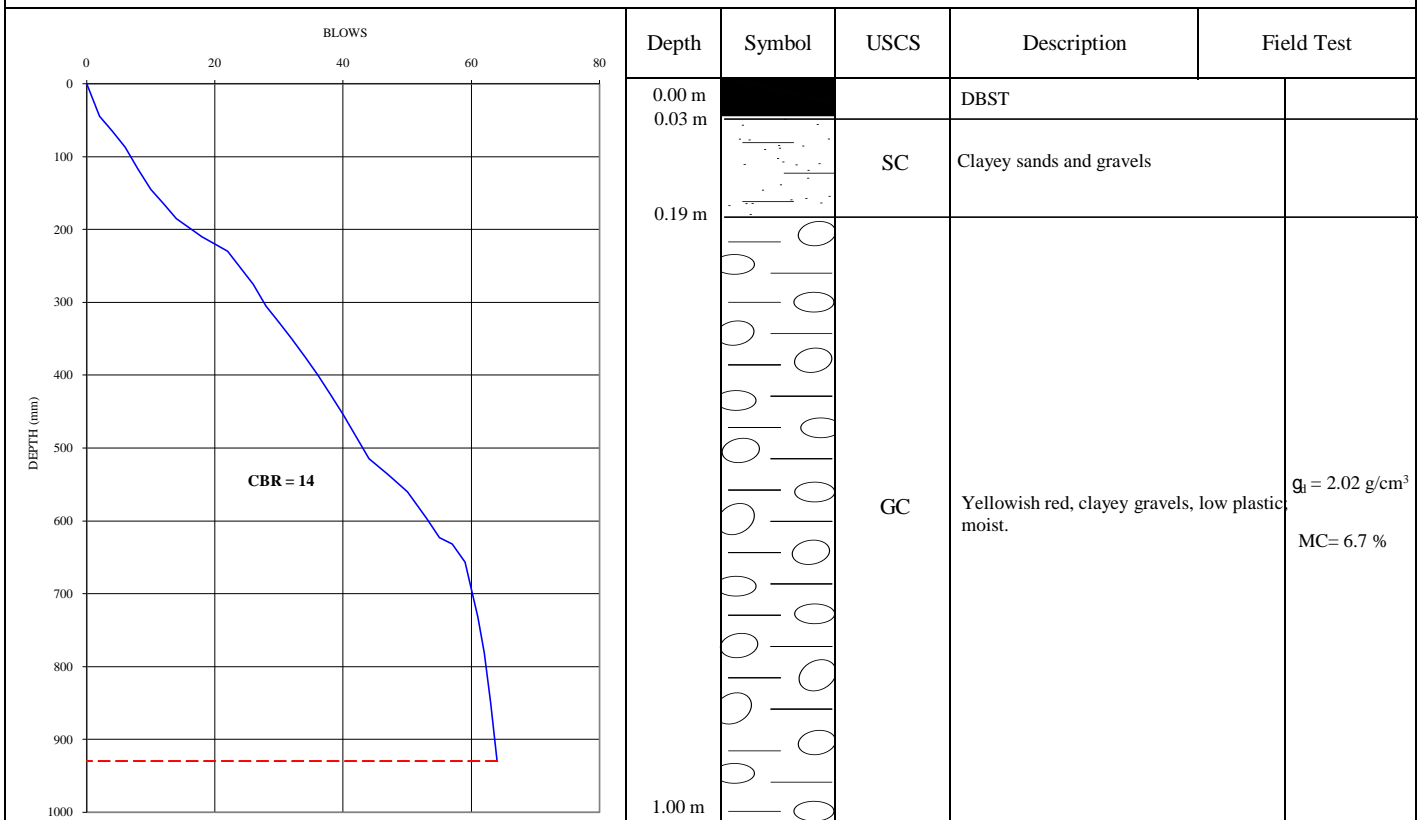
Figure B-106 DCP Profile and Test Pit Log



Location: Km 22+000, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



DCP Test No. 107

Test Pit No. 35

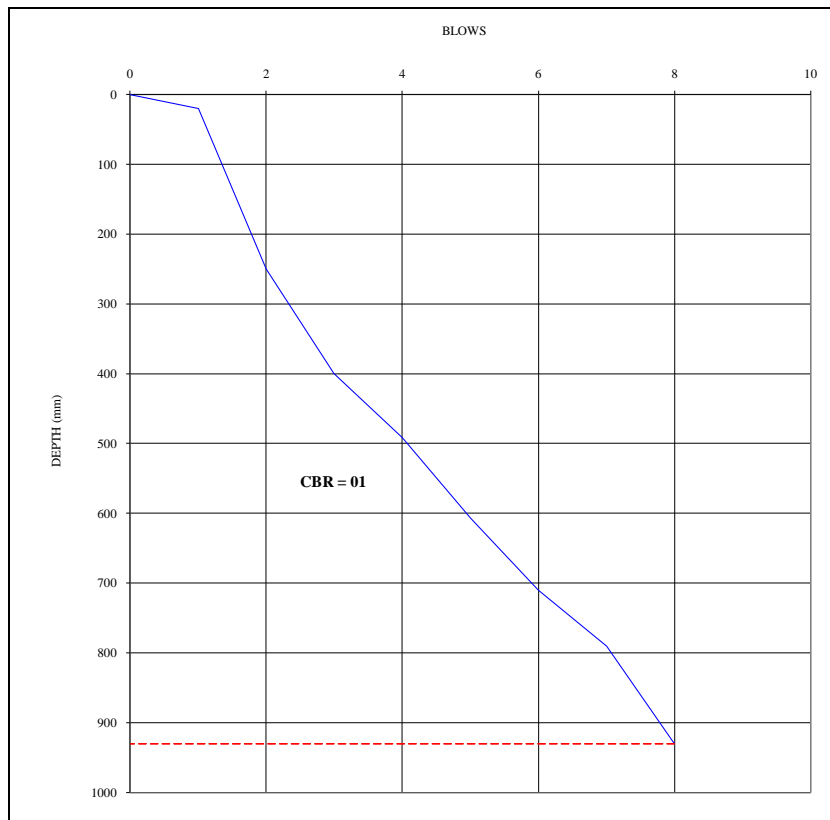
Figure B-107 DCP Profile and Test Pit Log



Location: Km 22+250, Lt/11.50 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



DCP Test No. 108

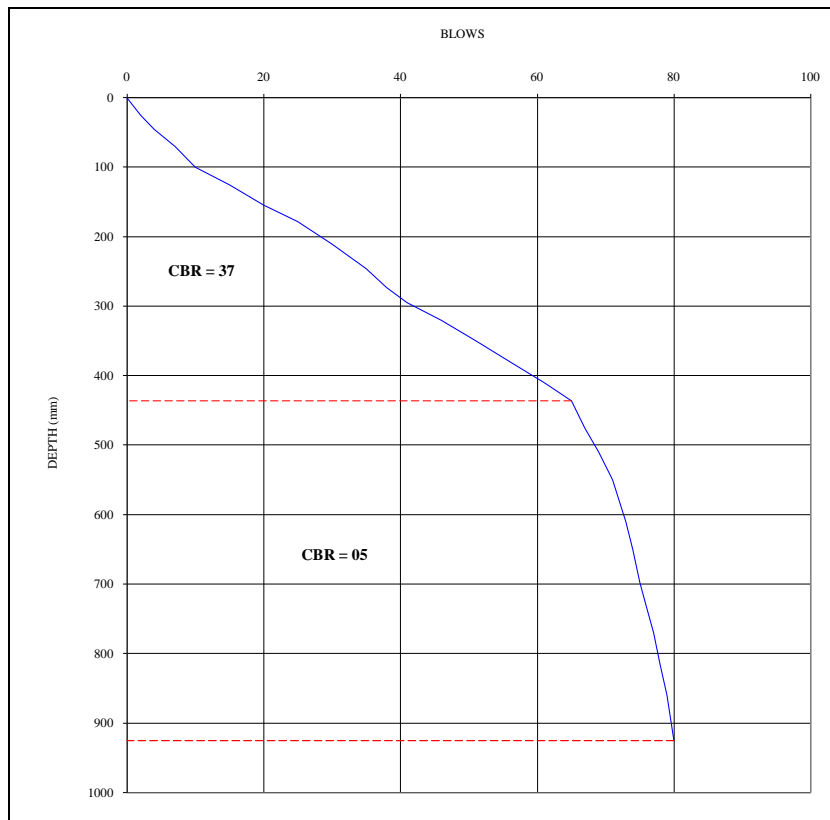
Figure B-108 DCP Profile



Location: Km 22+500, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 109**

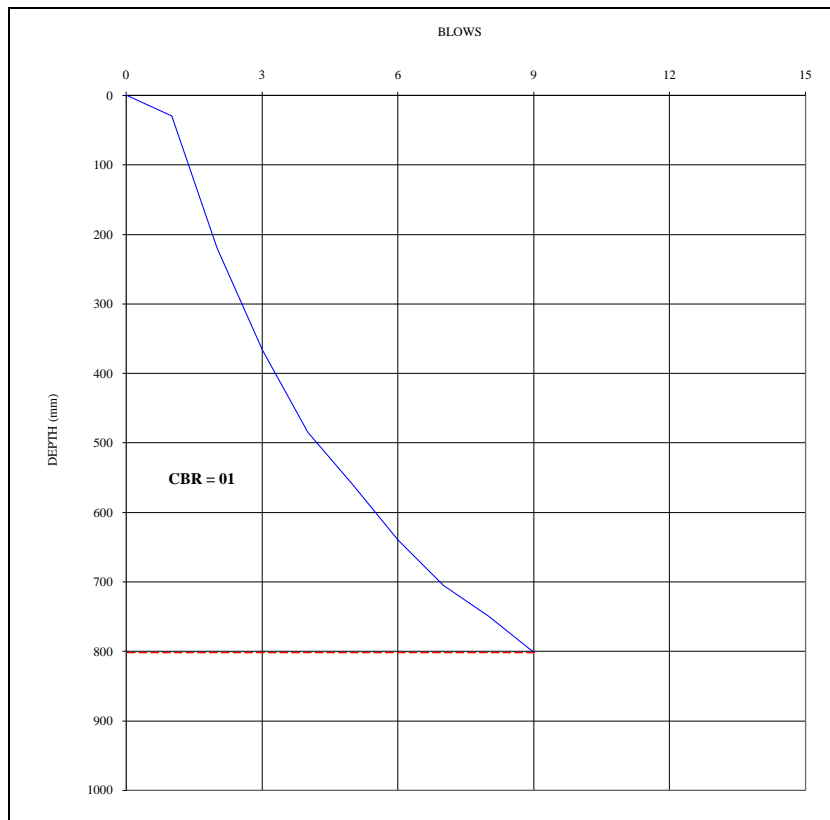
**Figure B-109 DCP Profile**



Location: Km 22+750, Lt/14.00 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



DCP Test No. 110

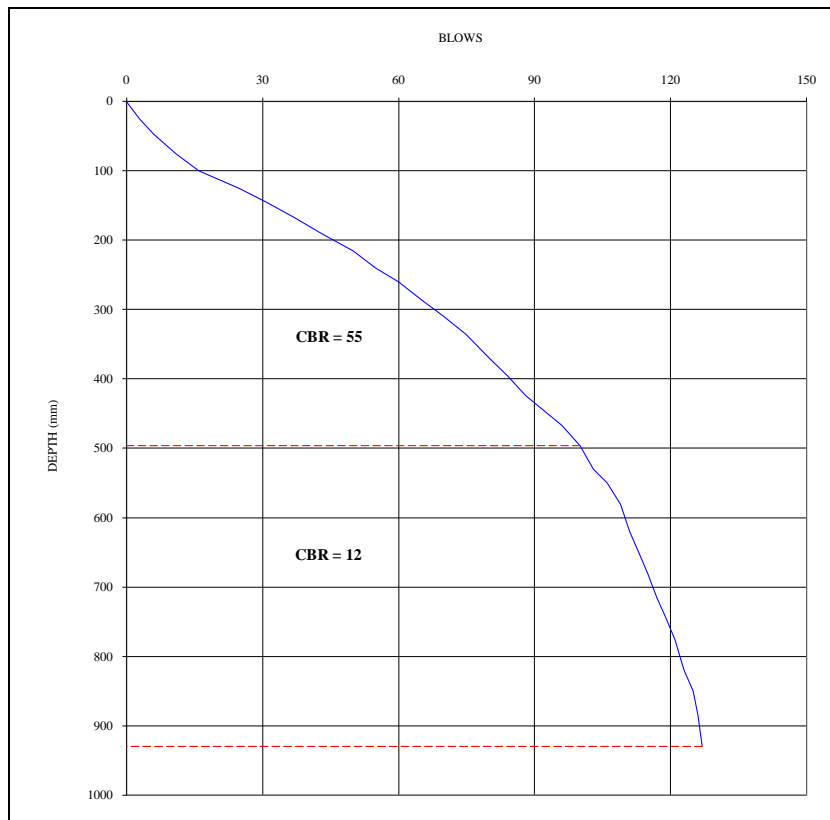
Figure B-110 DCP Profile



Location: Km 23+000, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 111**

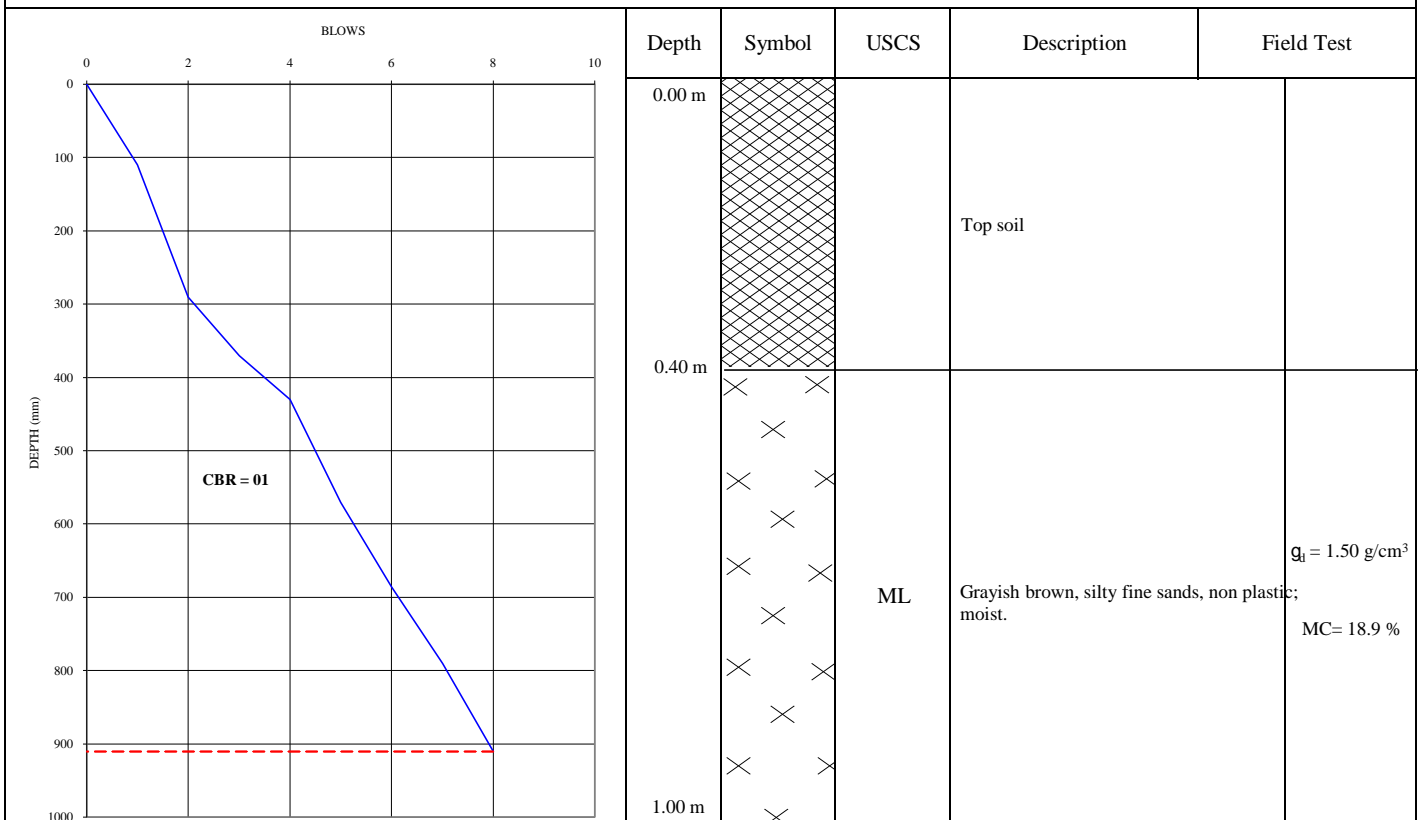
**Figure B-111 DCP Profile**



Location: Km 23+000, Lt/10.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



DCP Test No. 112

Test Pit No. 36

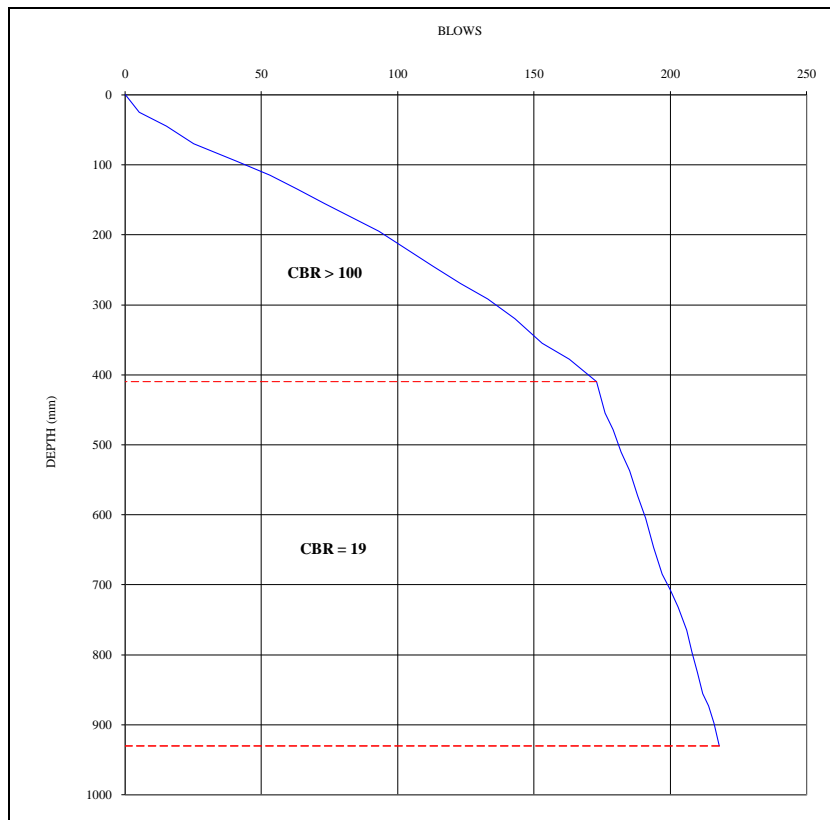
Figure B-112 DCP Profile and Test Pit Log



Location: Km 23+250, Rt/5.20 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 113**

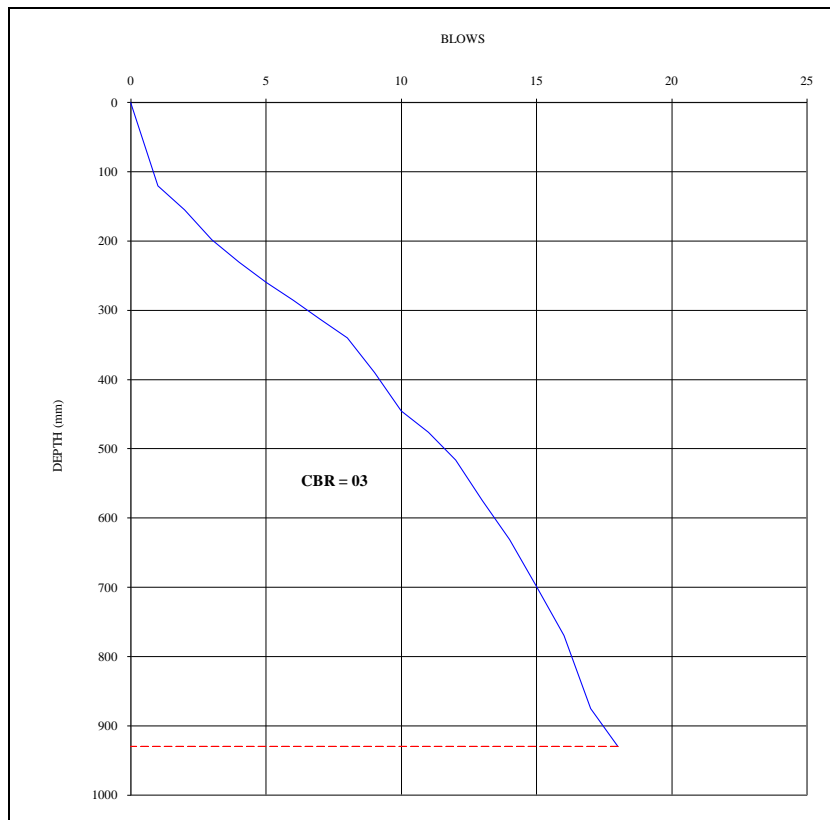
**Figure B-113 DCP Profile**



Location: Km 23+500, Lt/10.50 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 114**

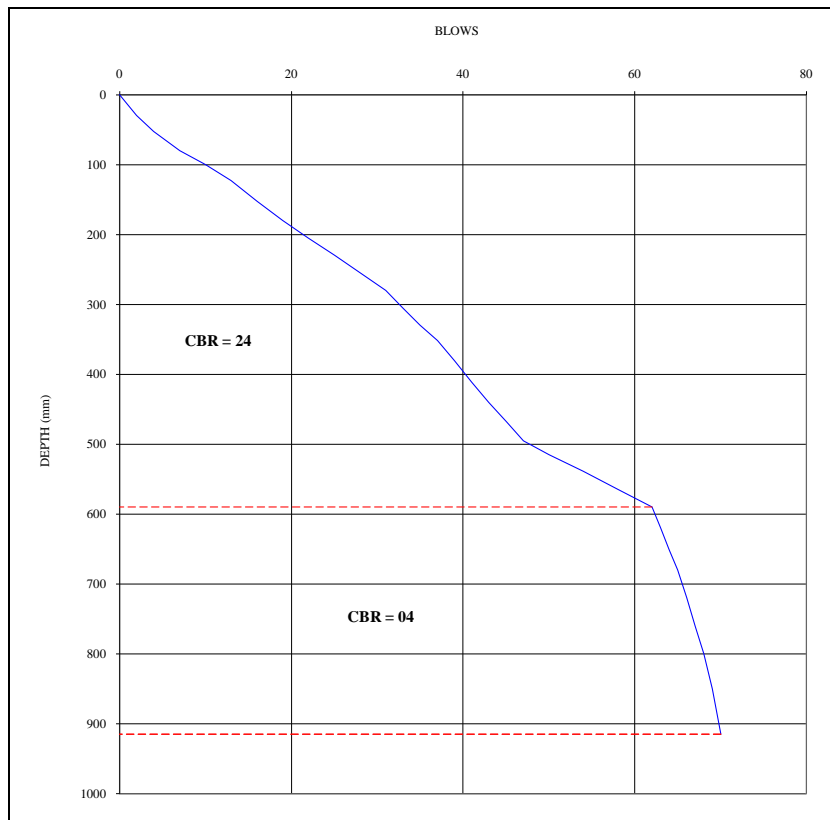
**Figure B-114 DCP Profile**



Location: Km 23+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 08/08/2017



**DCP Test No. 115**

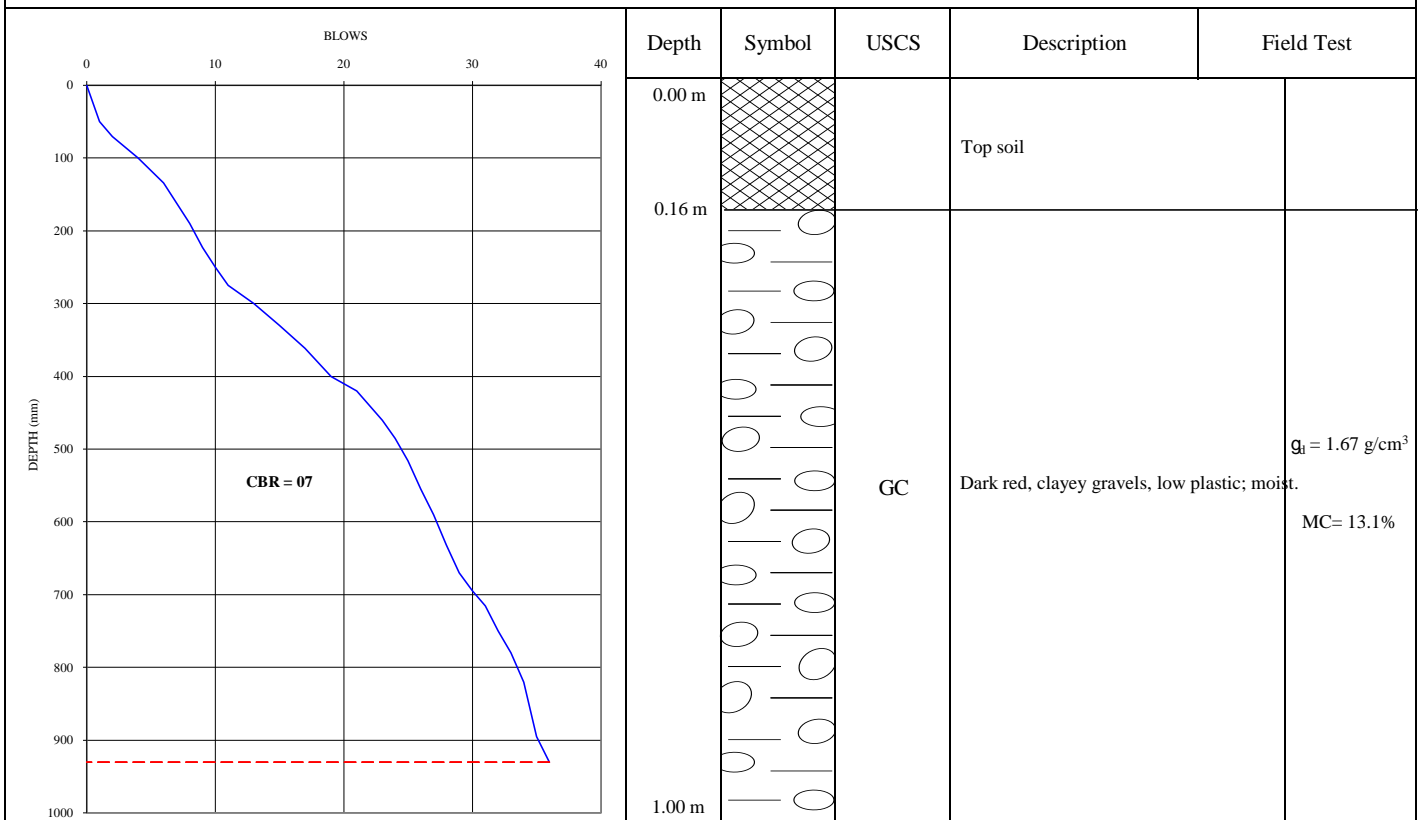
**Figure B-115 DCP Profile**



Location: Km 24+000, Lt/8.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



DCP Test No. 116

Test Pit No. 37

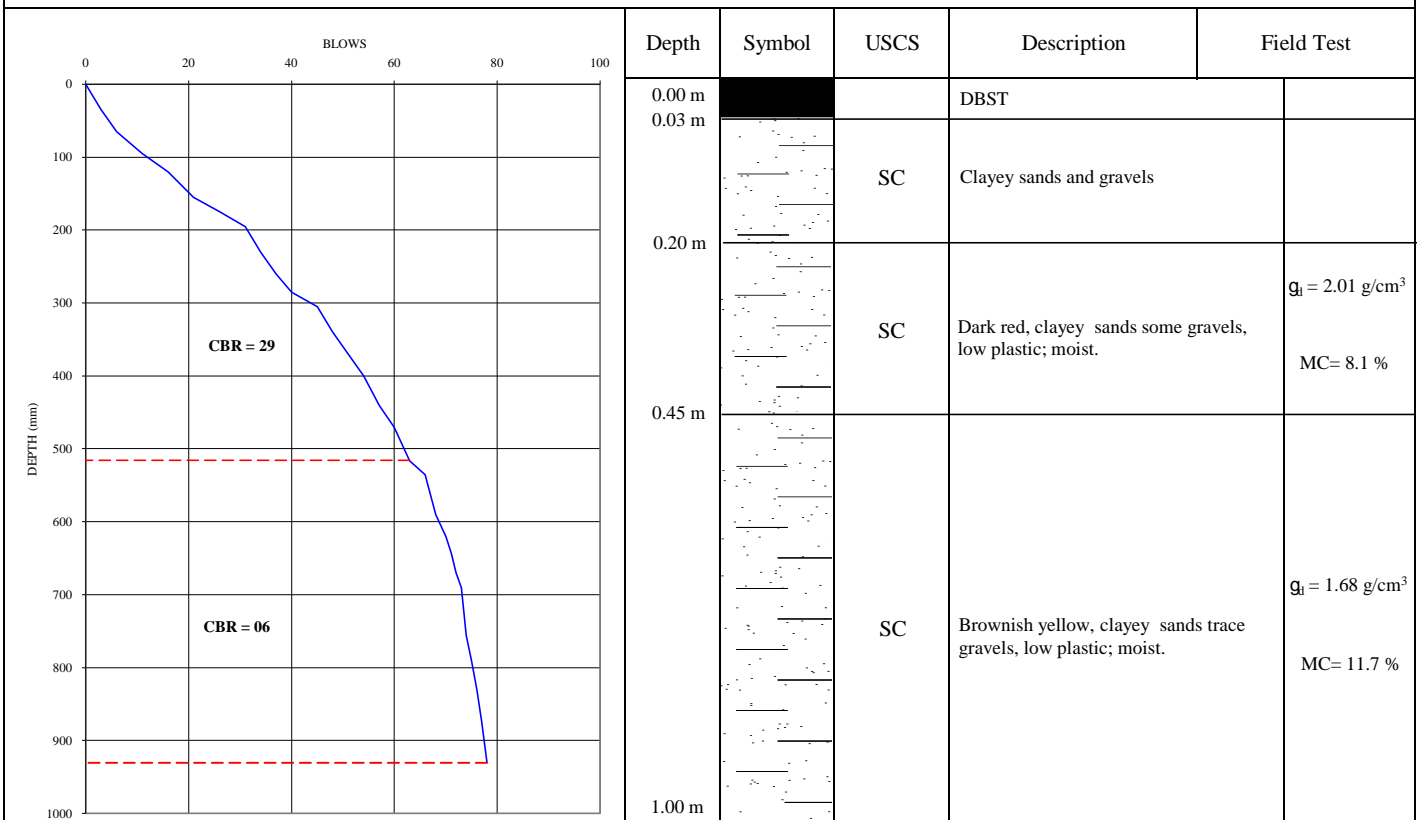
Figure B-116 DCP Profile and Test Pit Log



Location: Km 24+000, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



DCP Test No. 117

Test Pit No. 38

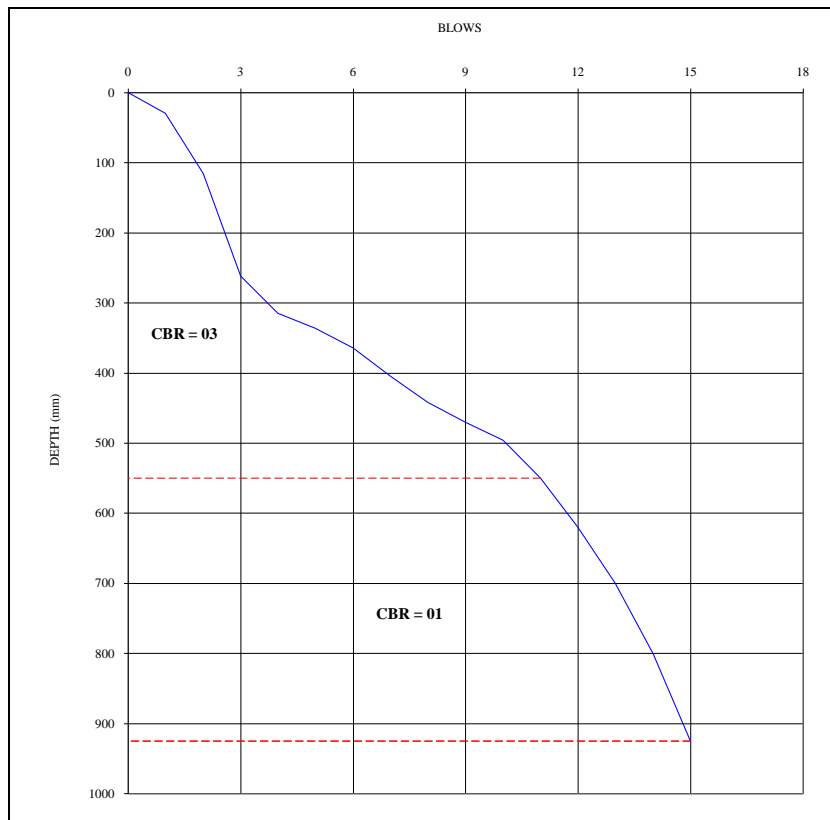
Figure B-117 DCP Profile and Test Pit Log



Location: Km 24+250, Lt/7.50 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 118**

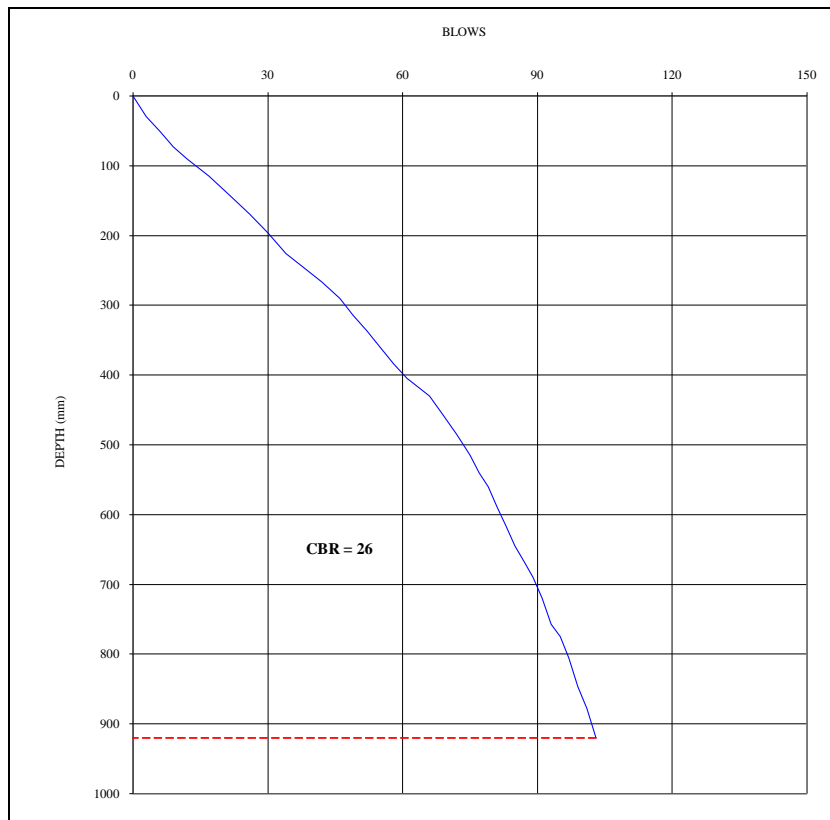
**Figure B-118 DCP Profile**



Location: Km 24+500, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 119**

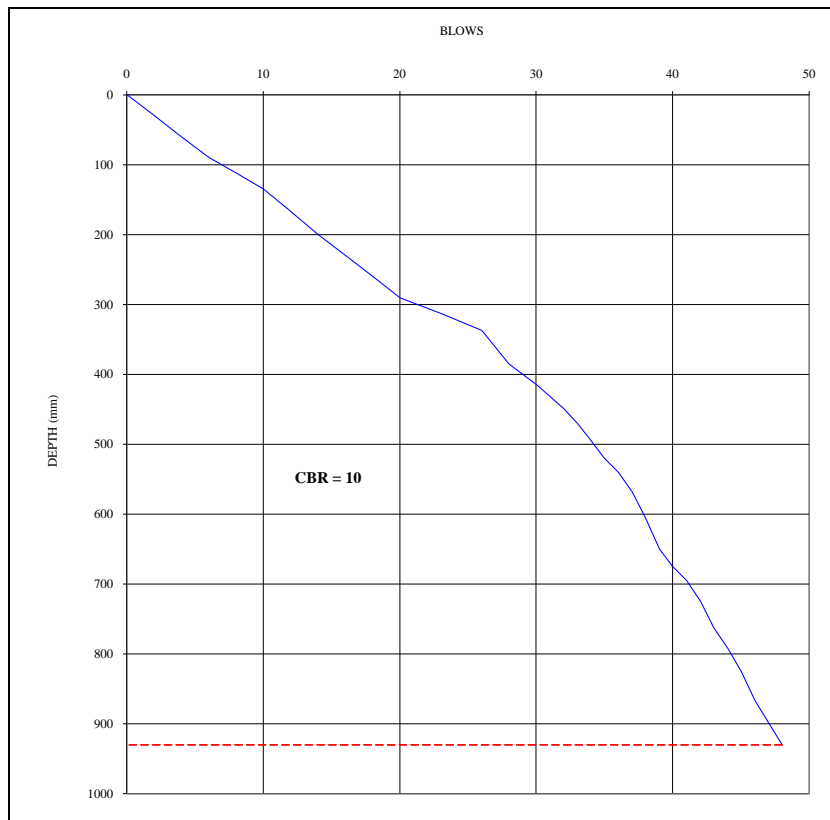
**Figure B-119 DCP Profile**



Location: Km 24+750, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 120**

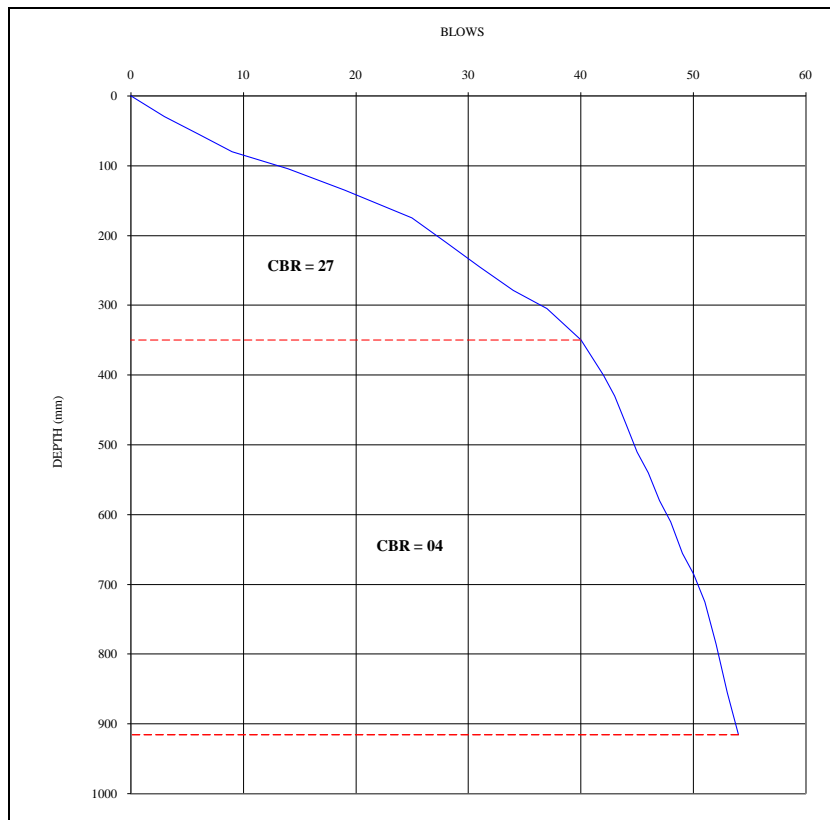
**Figure B-120 DCP Profile**



Location: Km 25+000, Rt/5.30 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 121**

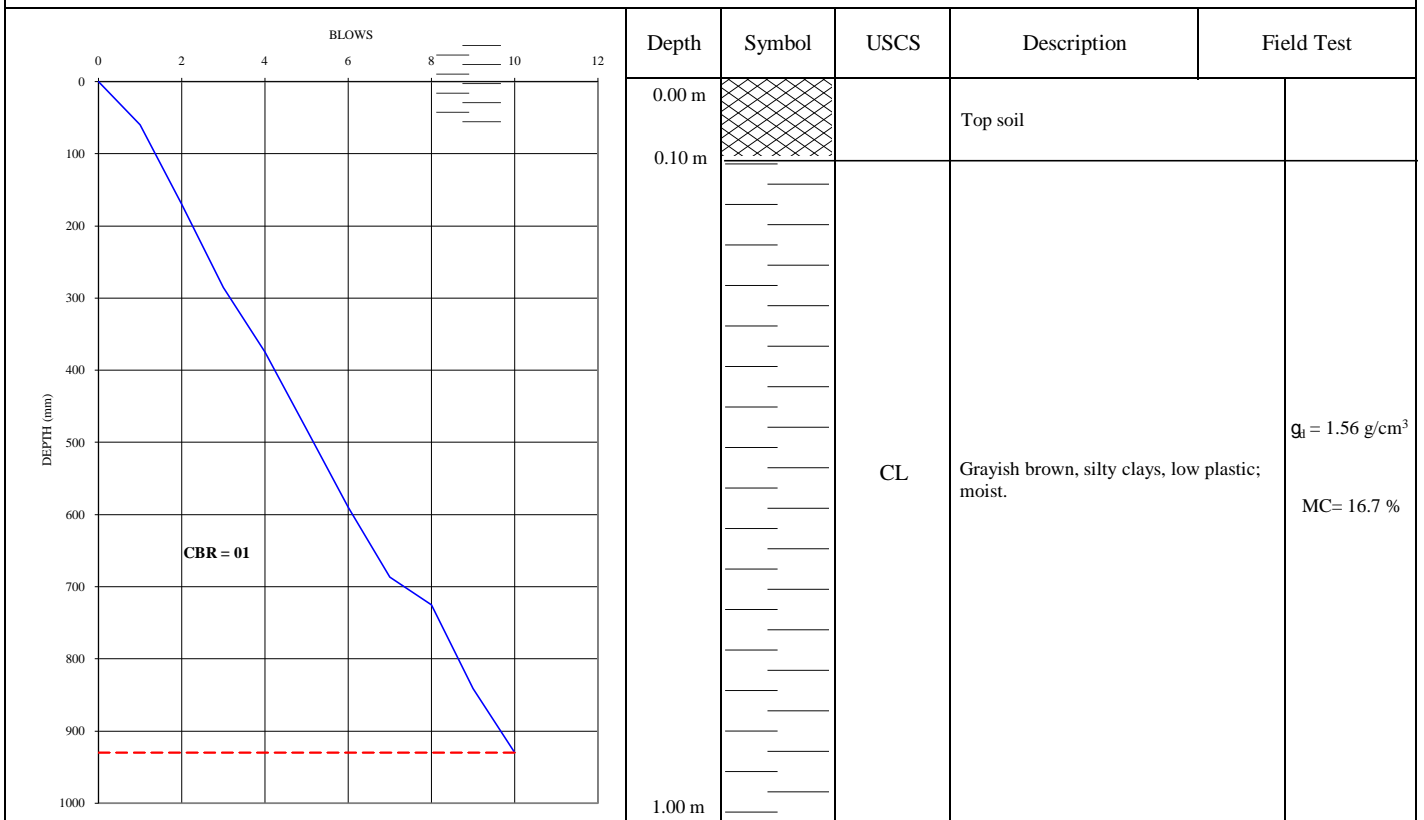
**Figure B-121 DCP Profile**



Location: m 25+000, Lt/10.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



**DCP Test No. 122**

**Test Pit No. 39**

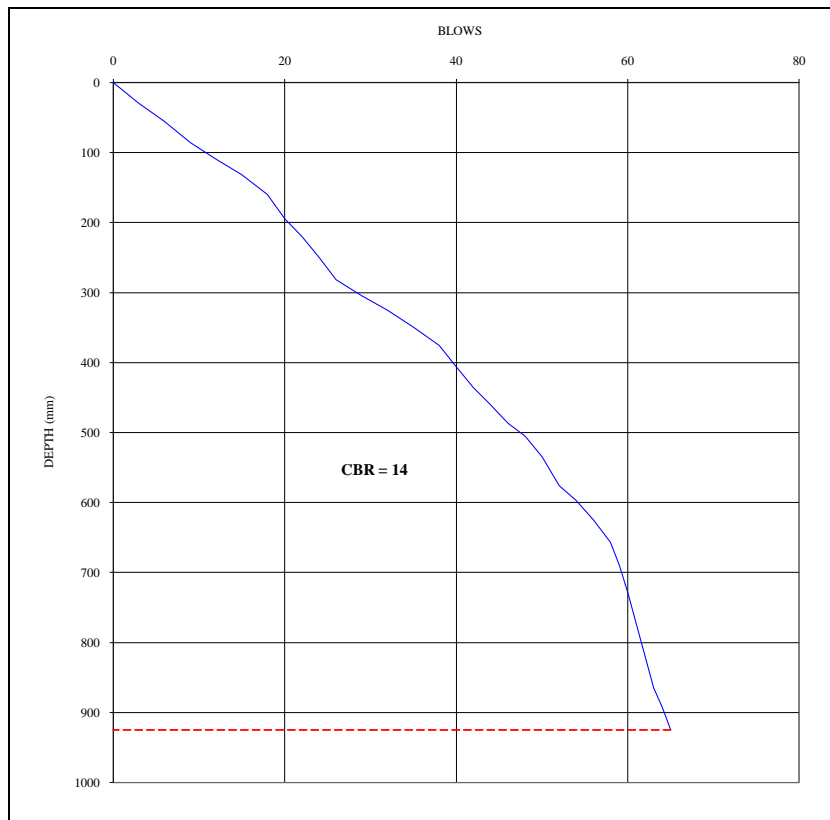
**Figure B-122 DCP Profile and Test Pit Log**



Location: Km 25+250, Rt/5.20 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 123**

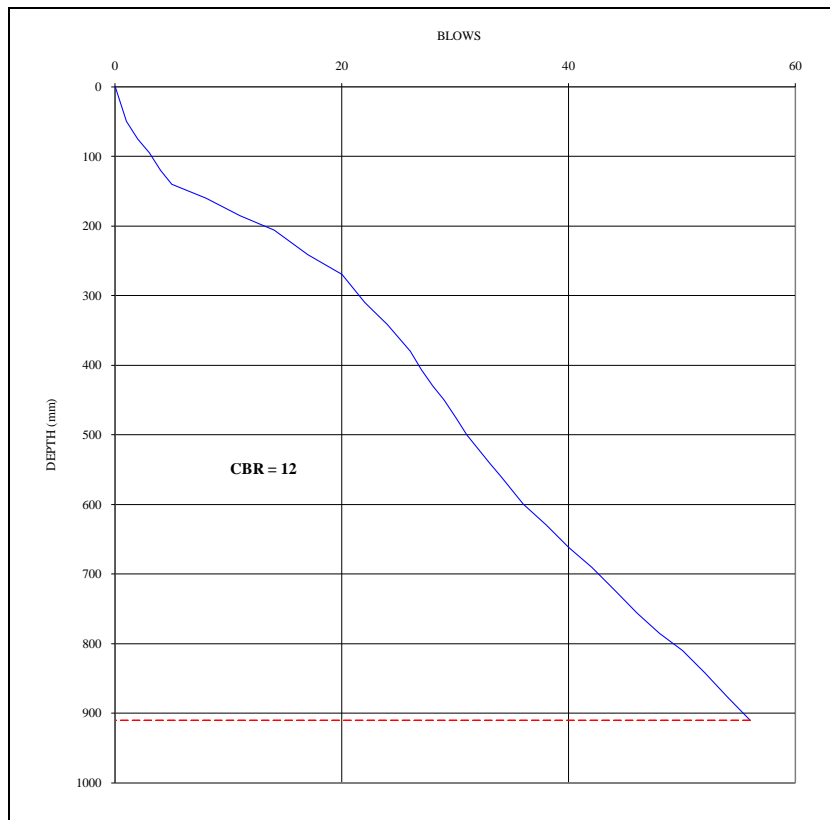
**Figure B-123 DCP Profile**



Location: Km 25+500, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 124**

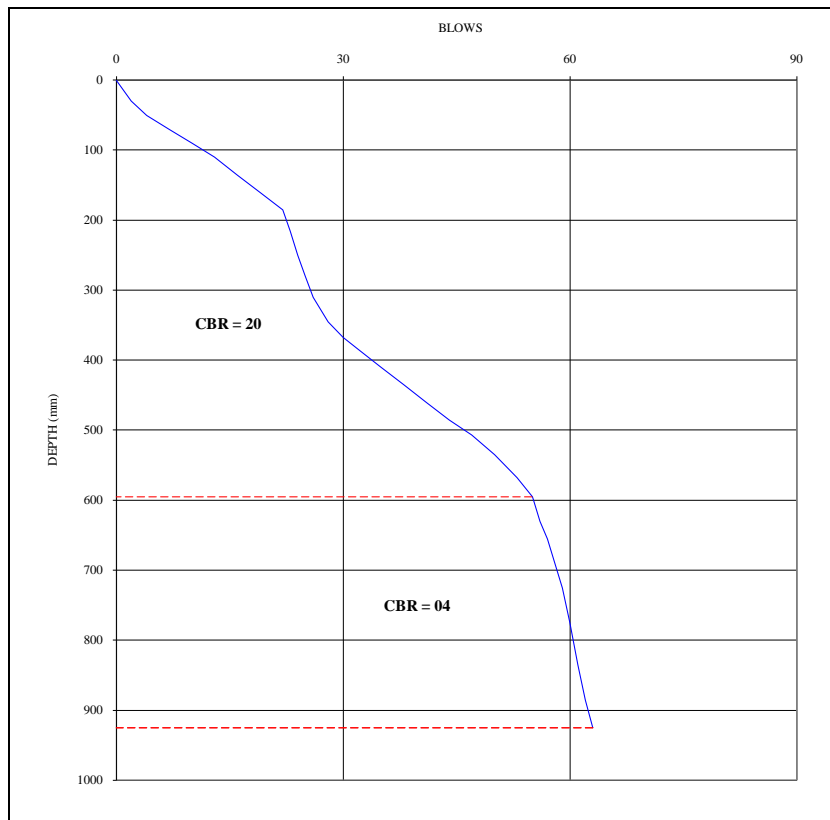
**Figure B-124 DCP Profile**



Location: Km 25+750, Rt/5.30 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



DCP Test No. 125

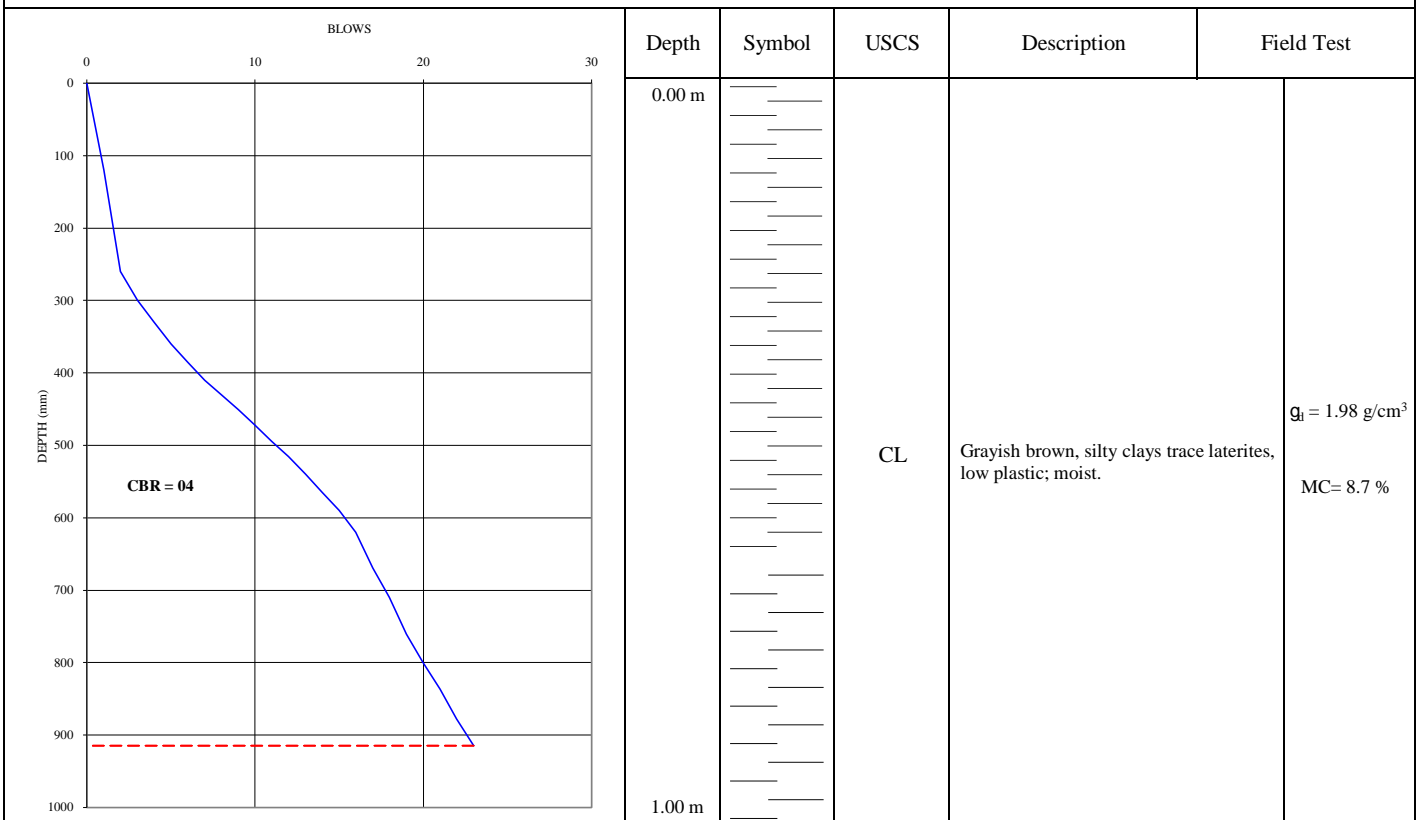
Figure B-125 DCP Profile



Location: Km 26+000, Lt/10.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



DCP Test No. 126

Test Pit No. 40

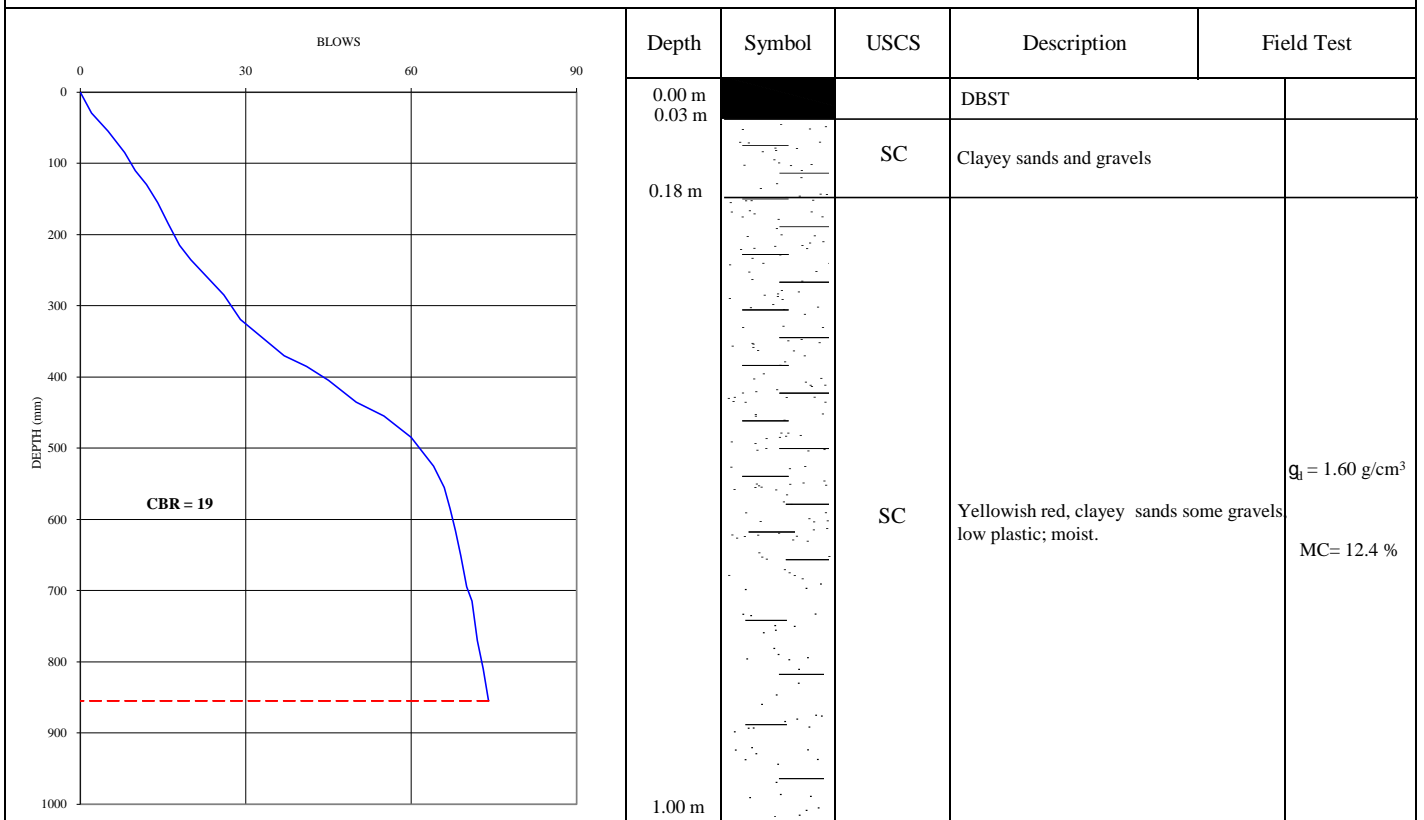
Figure B-126 DCP Profile and Test Pit Log



Location: Km 26+025, Rt/5.20 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



**DCP Test No. 127**

**Test Pit No. 41**

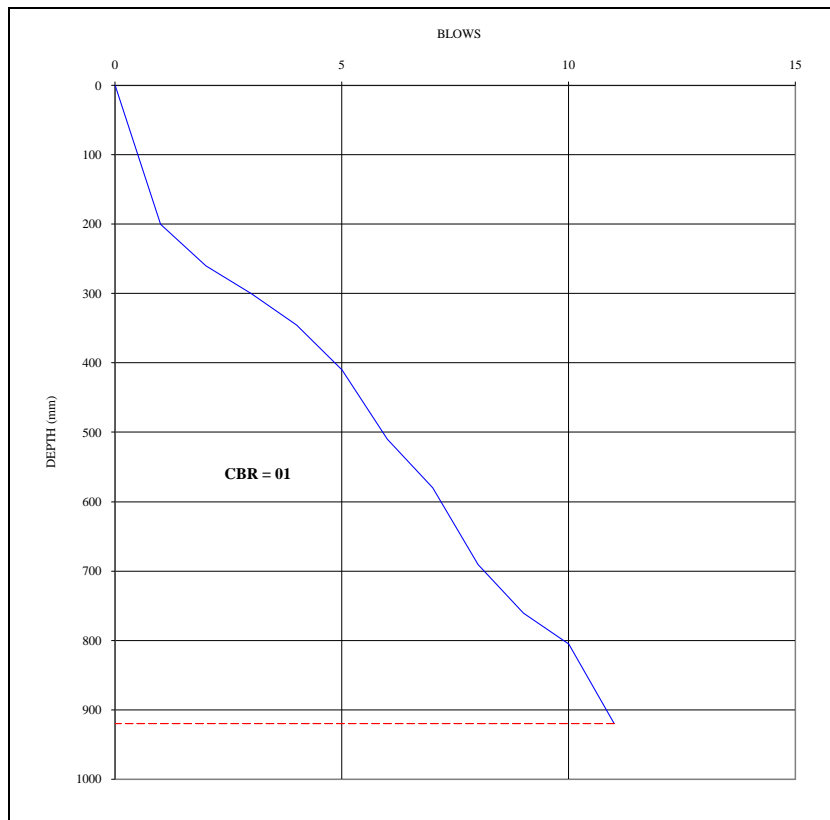
**Figure B-127 DCP Profile and Test Pit Log**



Location: Km 26+250, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 128**

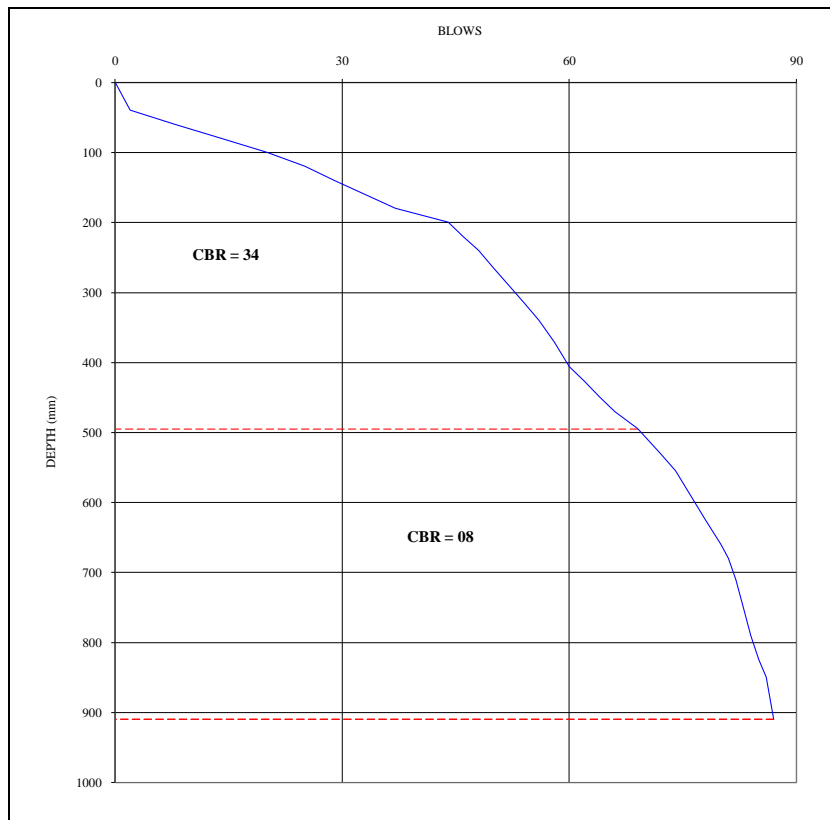
**Figure B-128 DCP Profile**



Location: Km 26+500, Rt/5.30 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 129**

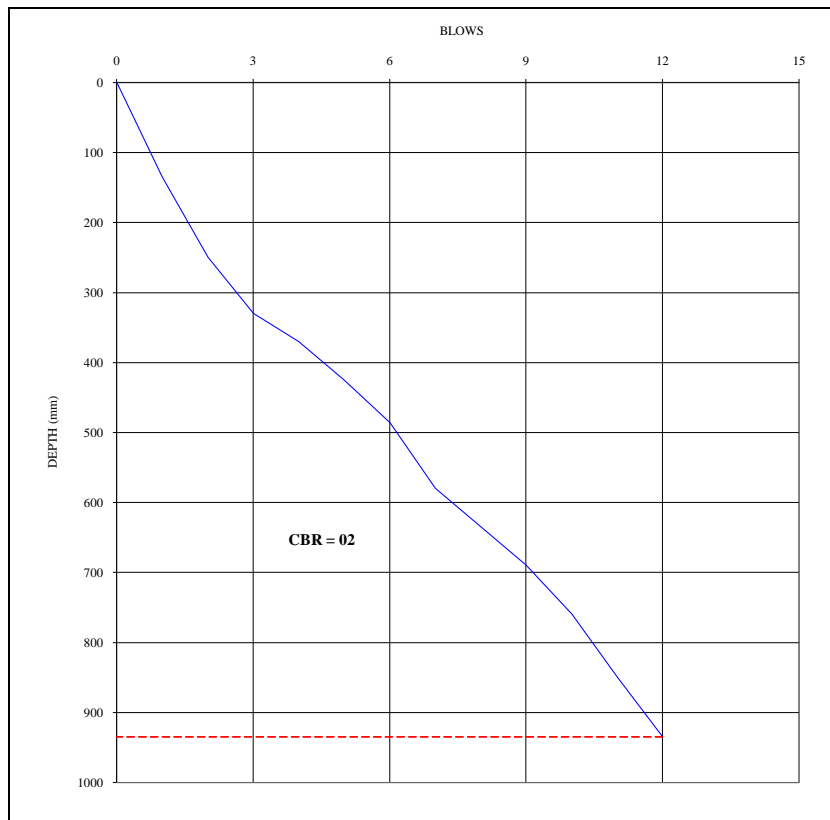
**Figure B-129 DCP Profile**



Location: Km 26+750, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 130**

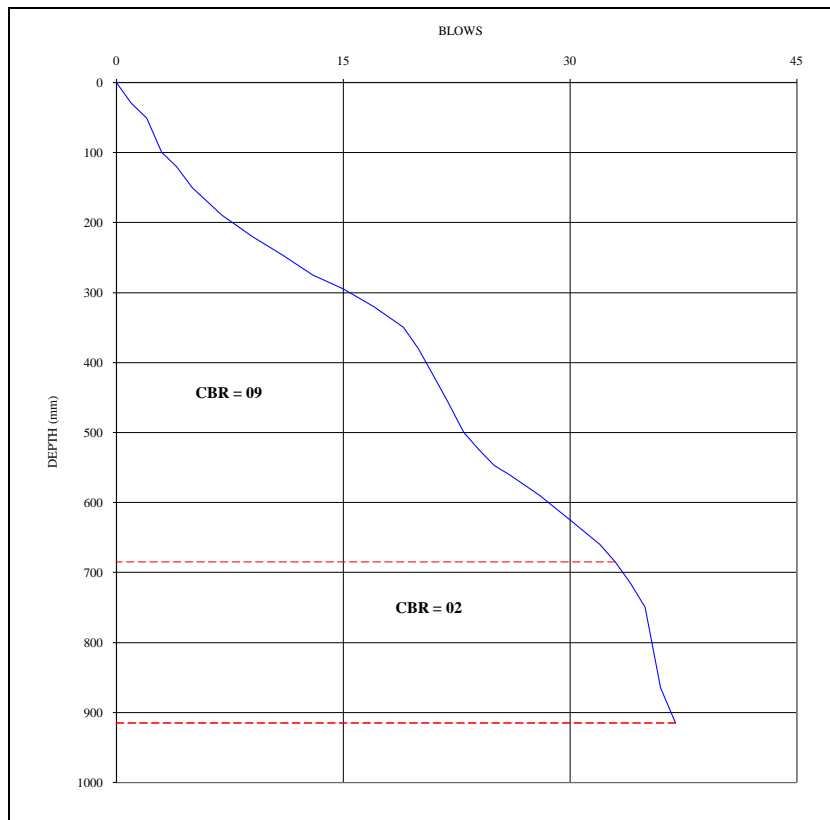
**Figure B-130 DCP Profile**



Location: Km 27+000, Rt/5.40 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 131**

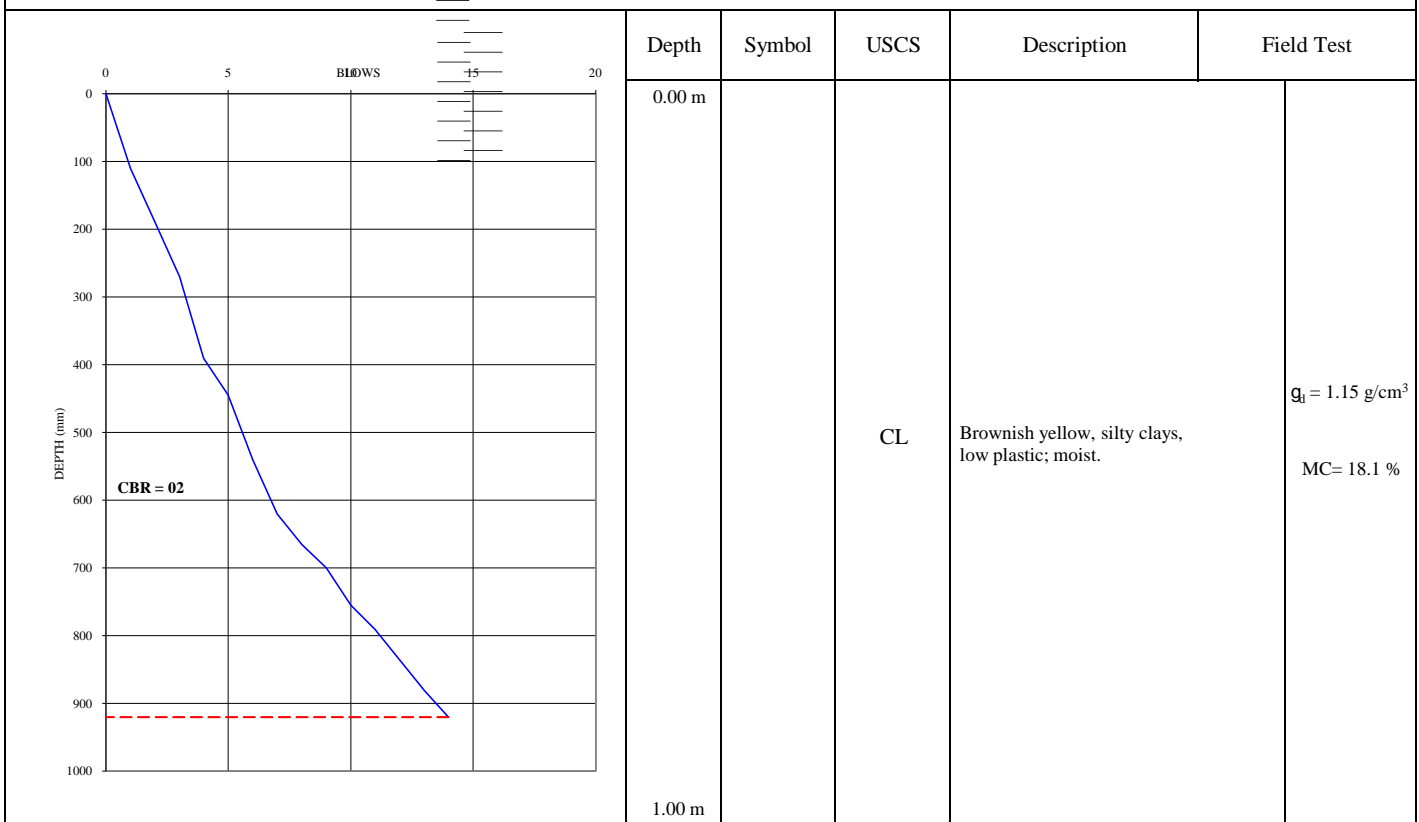
**Figure B-131 DCP Profile**



Location: Km 27+000, Lt/10.00 m

Depth: 0.00m - 1.00 m

Date : 10/08/2017



DCP Test No. 132

Test Pit No. 42

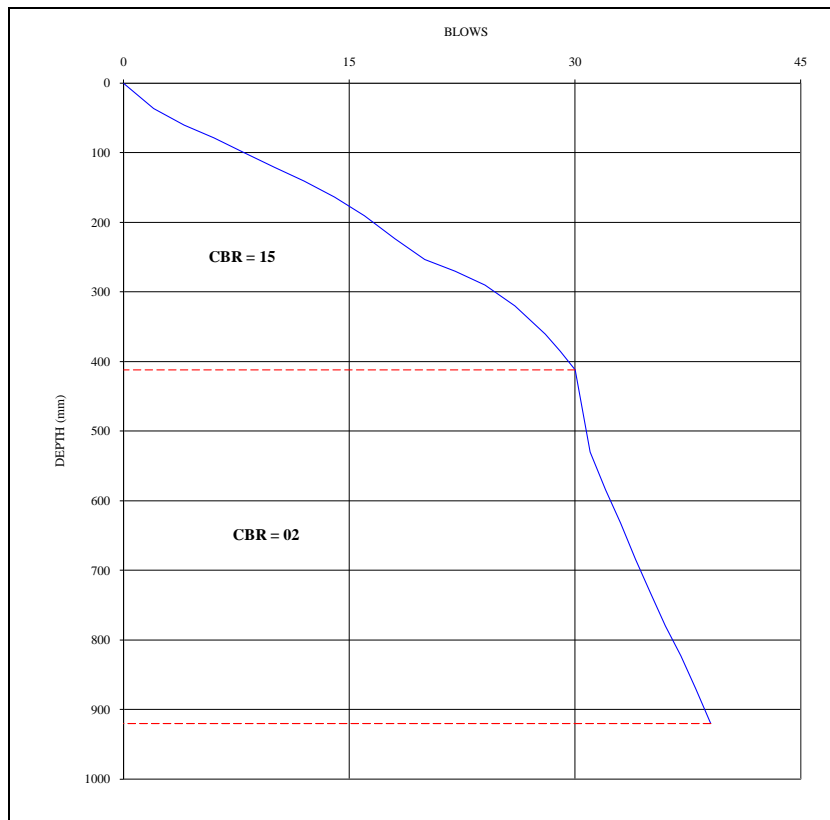
Figure B-132 DCP Profile and Test Pit Log



Location: Km 27+250, Rt/5.20 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



DCP Test No. 133

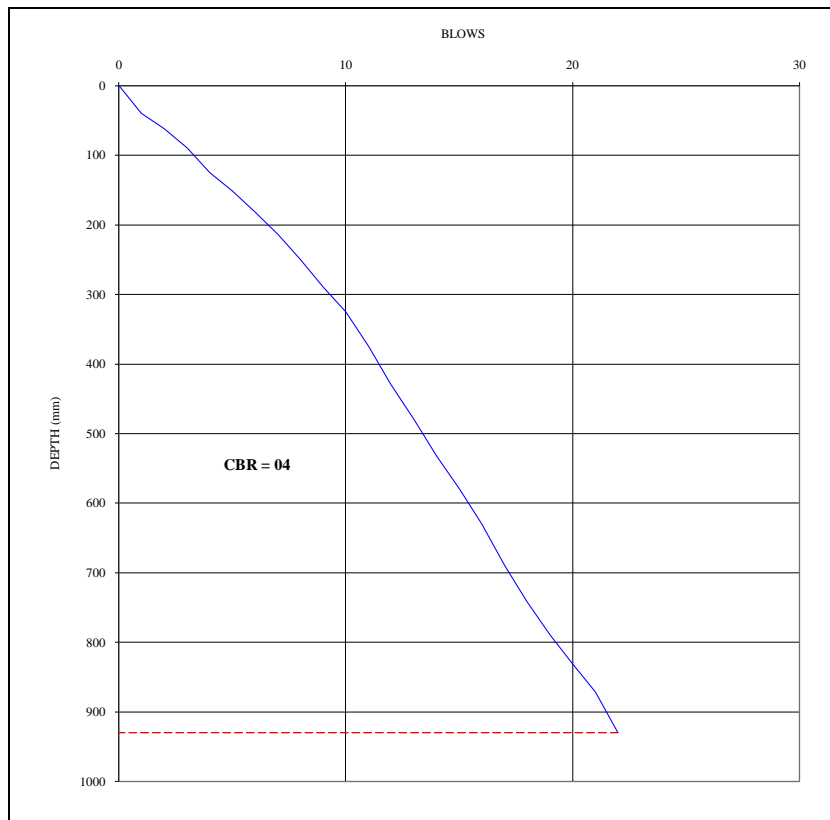
Figure B-133 DCP Profile



Location: Km 27+500, Lt/11.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 134**

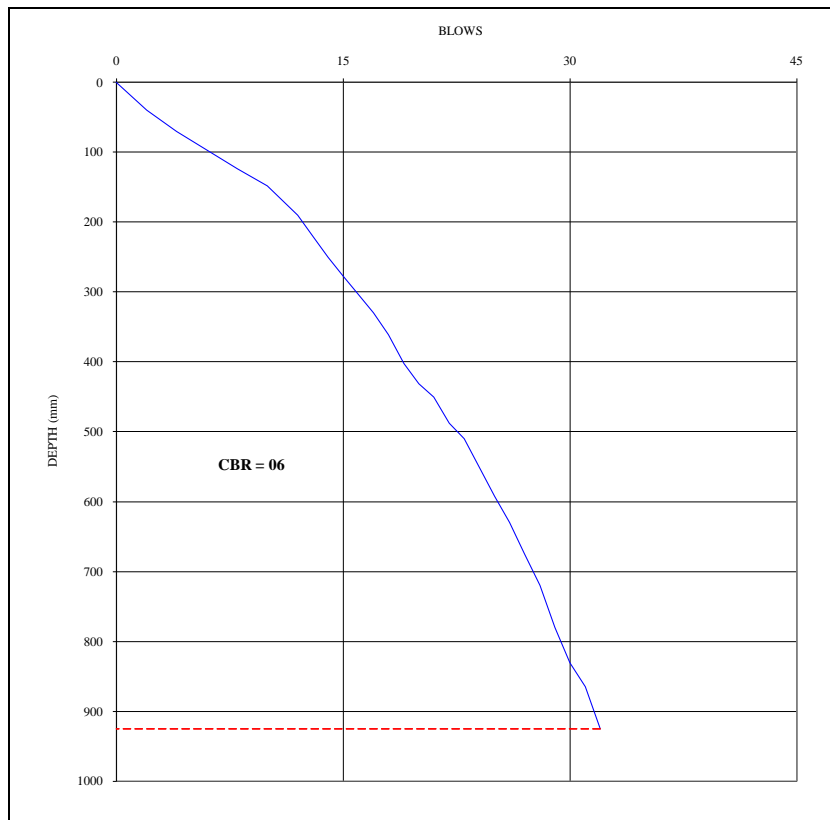
**Figure B-134 DCP Profile**



Location: Km 27+750, Rt/5.30 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



DCP Test No. 135

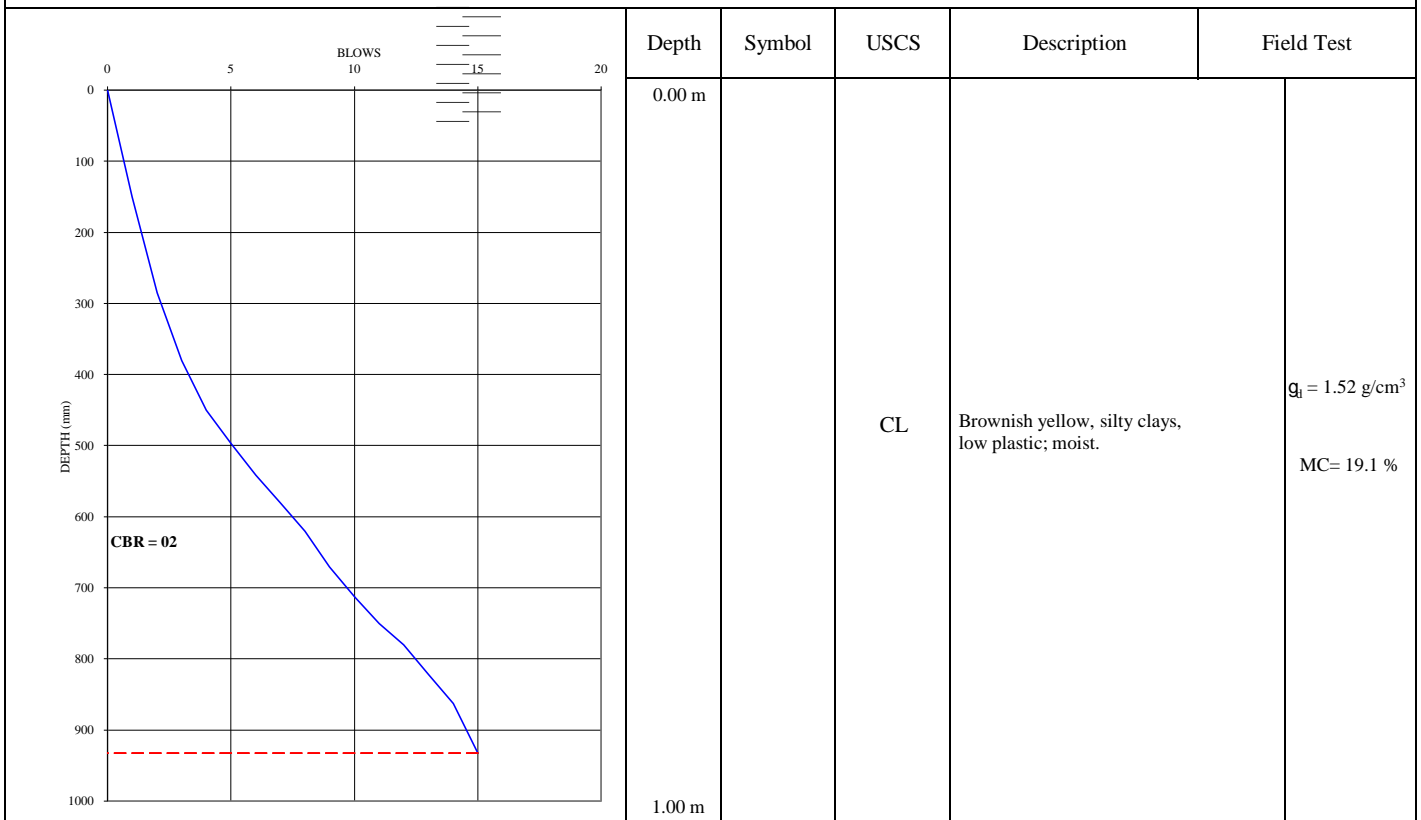
Figure B-135 DCP Profile



Location: Km 28+050, Lt/9.00 m

Depth: 0.00m - 1.00 m

Date : 11/08/2017



**DCP Test No. 136**

**Test Pit No. 43**

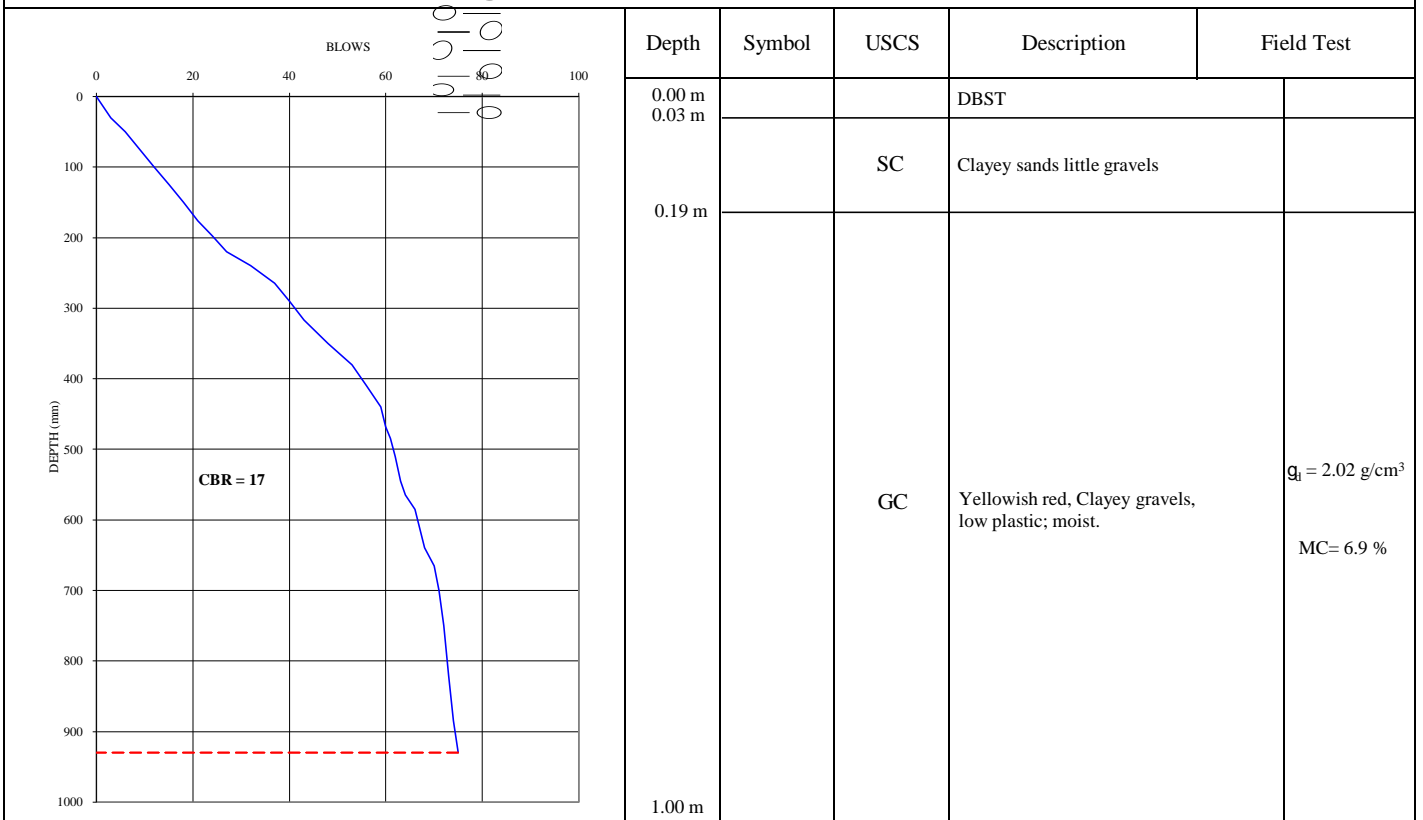
**Figure B-136 DCP Profile and Test Pit Log**



Location: Km 28+050, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 11/08/2017



**DCP Test No. 137**

**Test Pit No. 44**

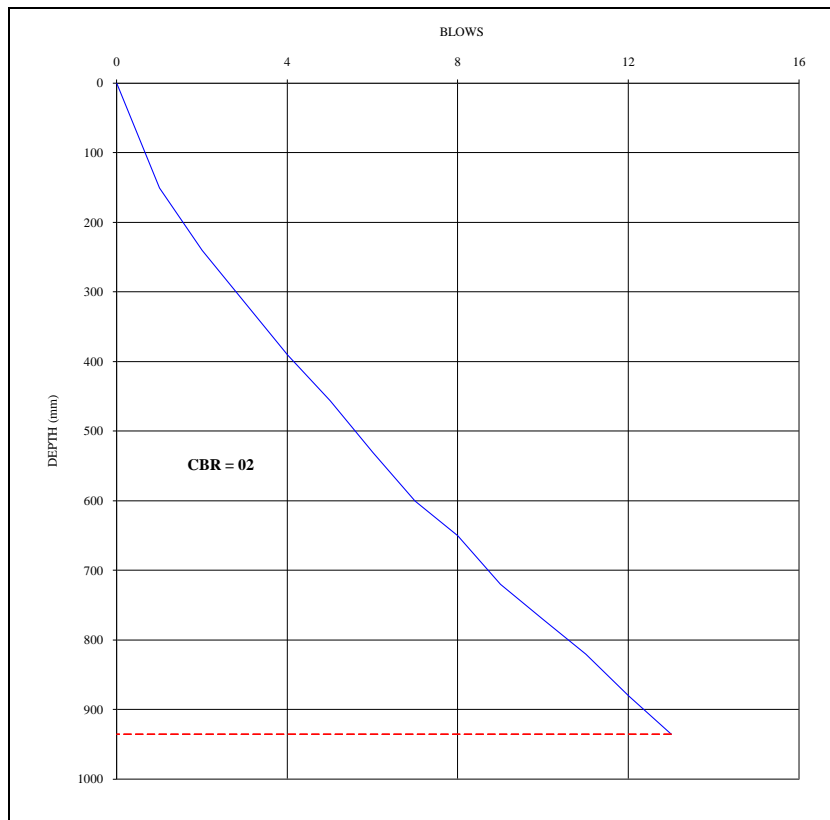
**Figure B-137 DCP Profile and Test Pit Log**



Location: Km 28+250, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 138**

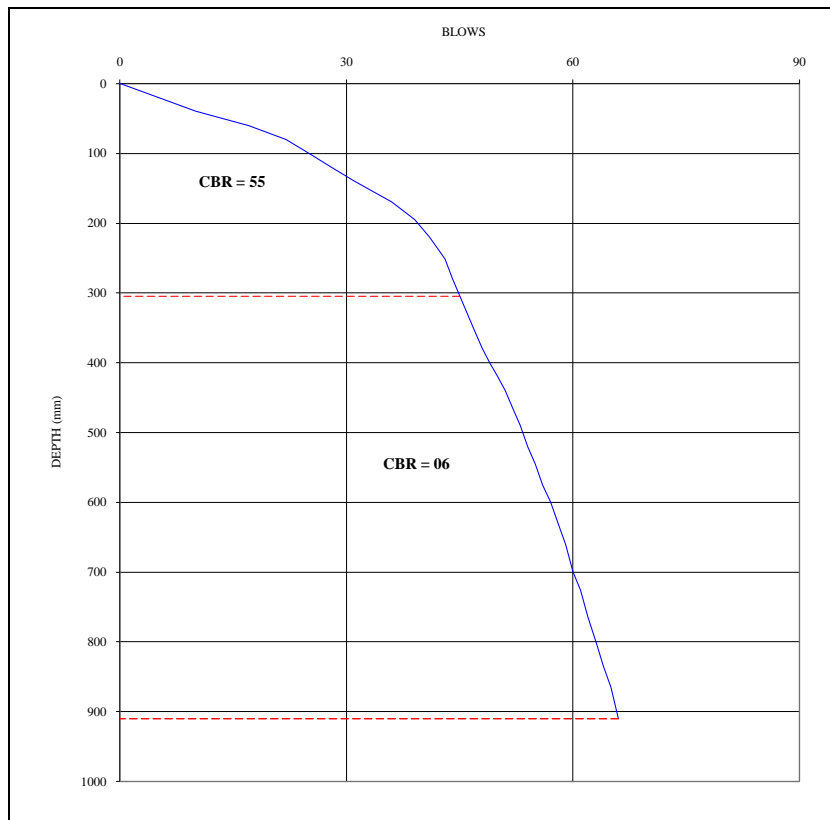
**Figure B-138 DCP Profile**



Location: Km 28+500, Rt/5.30 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



DCP Test No. 139

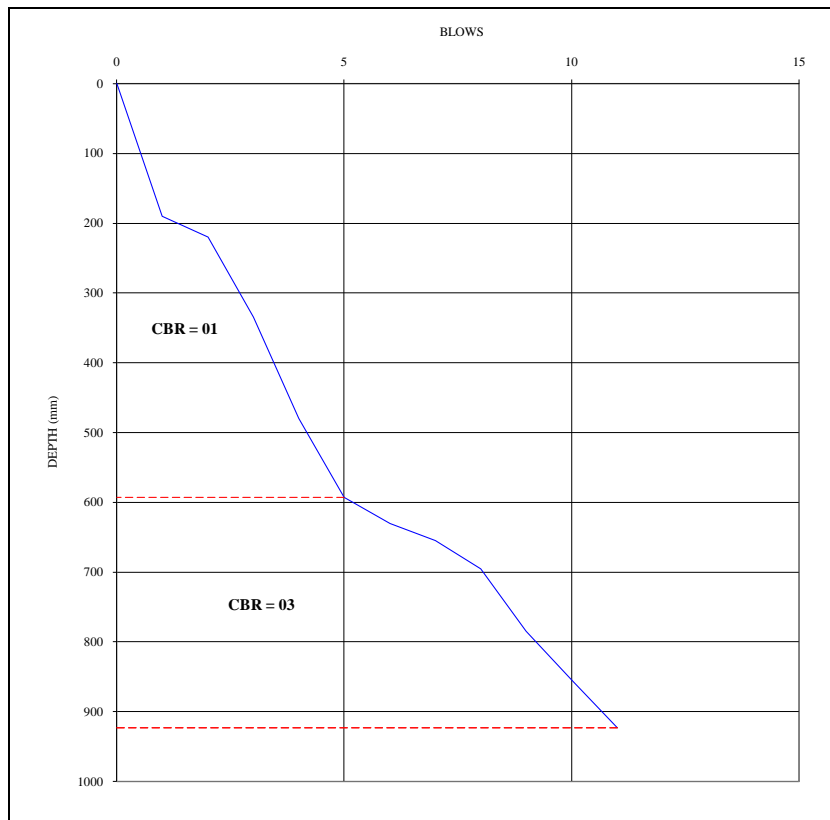
Figure B-139 DCP Profile



Location: Km 28+750, Lt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 140**

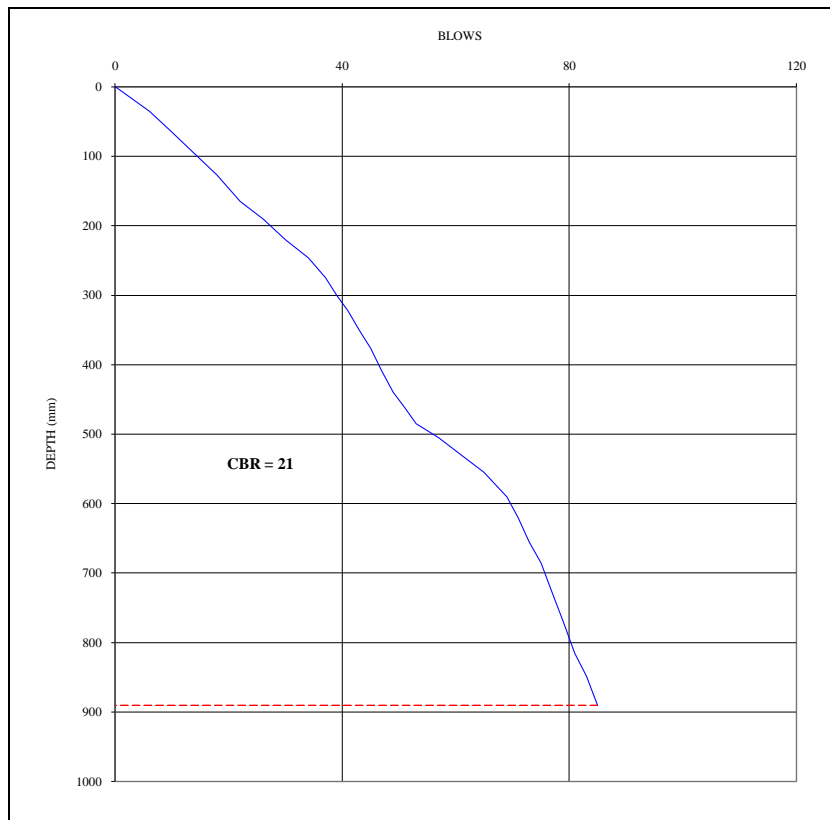
**Figure B-140 DCP Profile**



Location: Km 29+000, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 141**

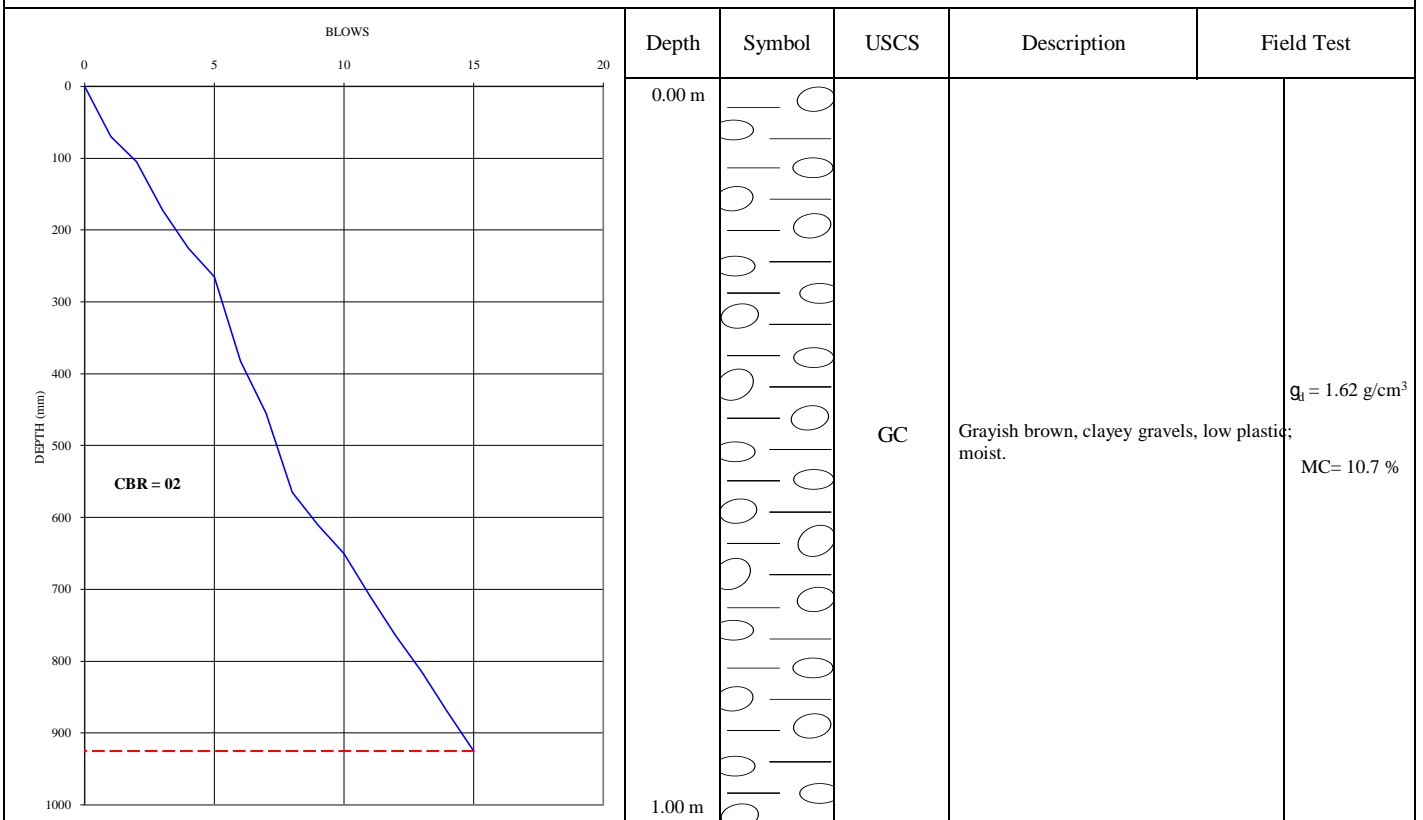
**Figure B-141 DCP Profile**



Location: Km 29+020, Lt/8.00 m

Depth: 0.00m - 1.00 m

Date : 11/08/2017



DCP Test No. 142

Test Pit No. 45

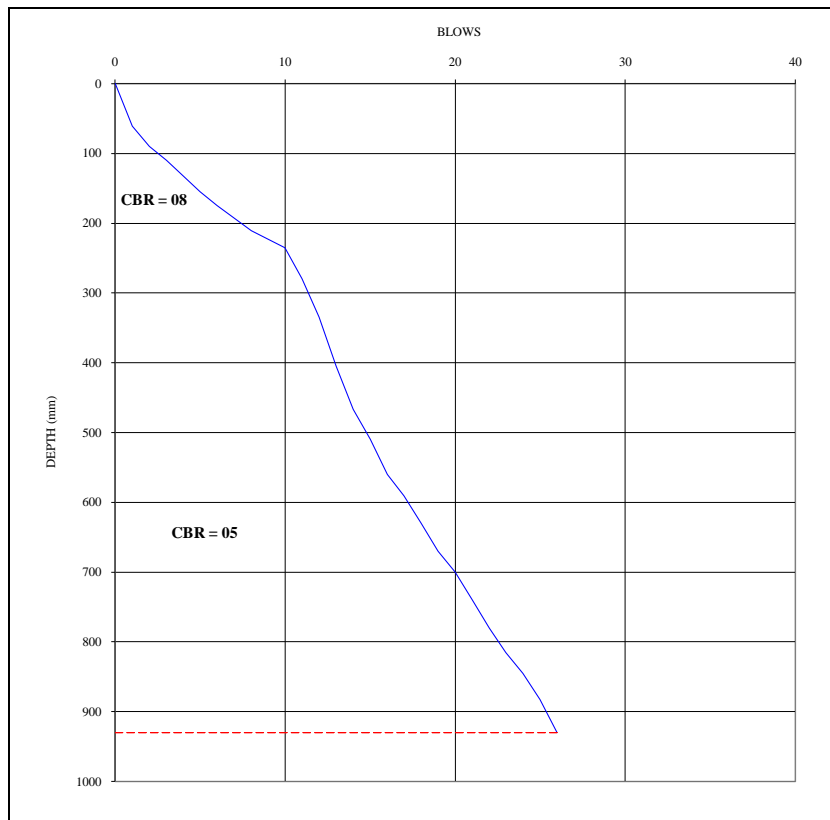
Figure B-142 DCP Profile and Test Pit Log



Location: Km 29+250, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 143**

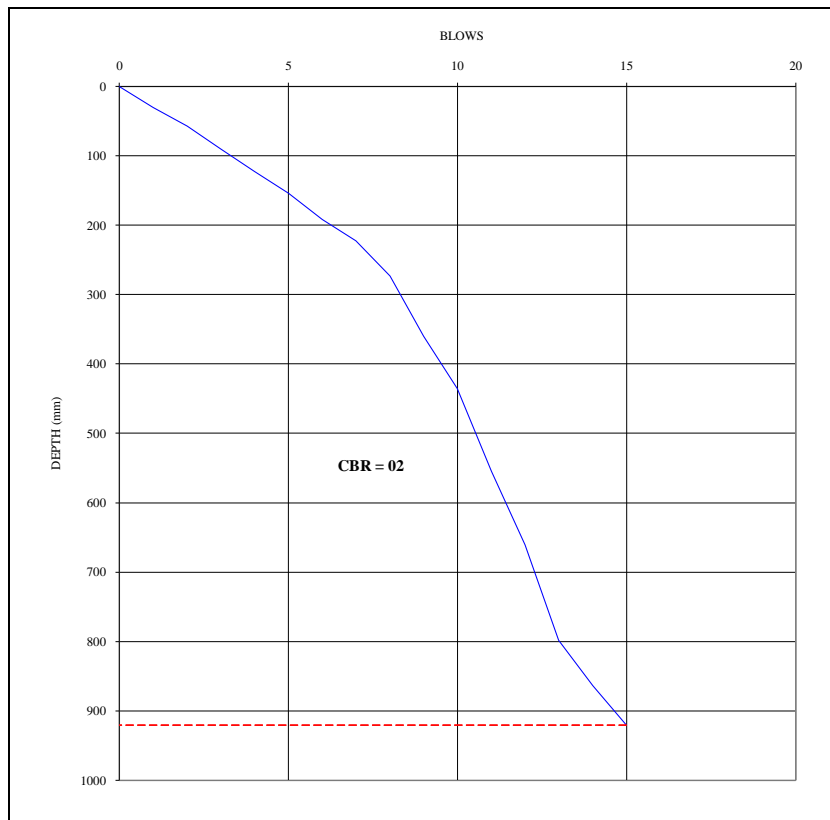
**Figure B-143 DCP Profile**



Location: Km 29+500, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 144**

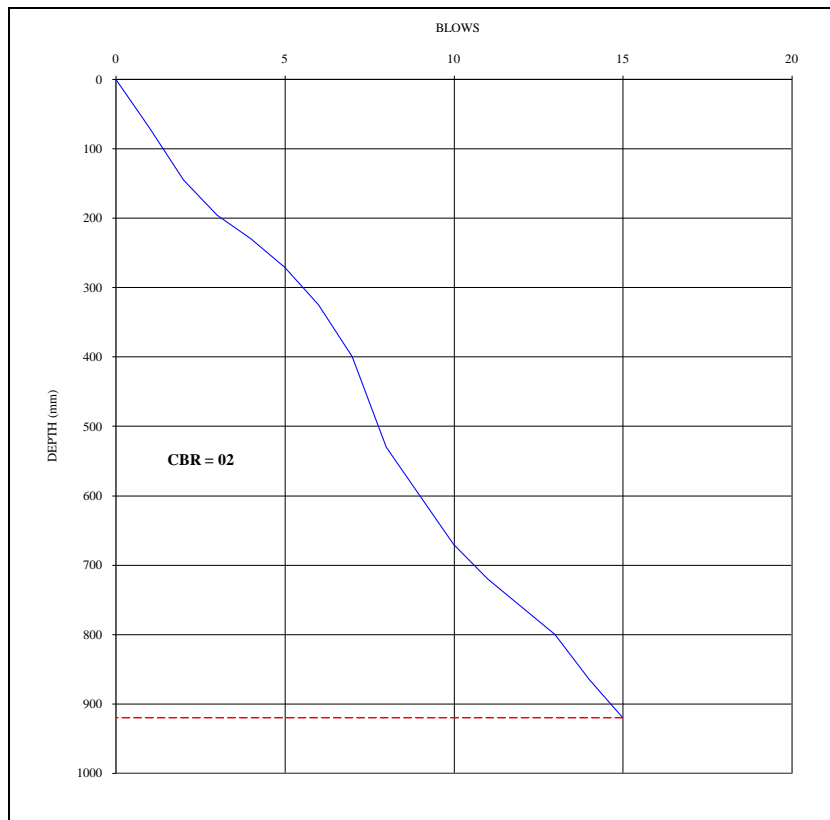
**Figure B-144 DCP Profile**



Location: Km 29+750, Lt/8.50 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 145**

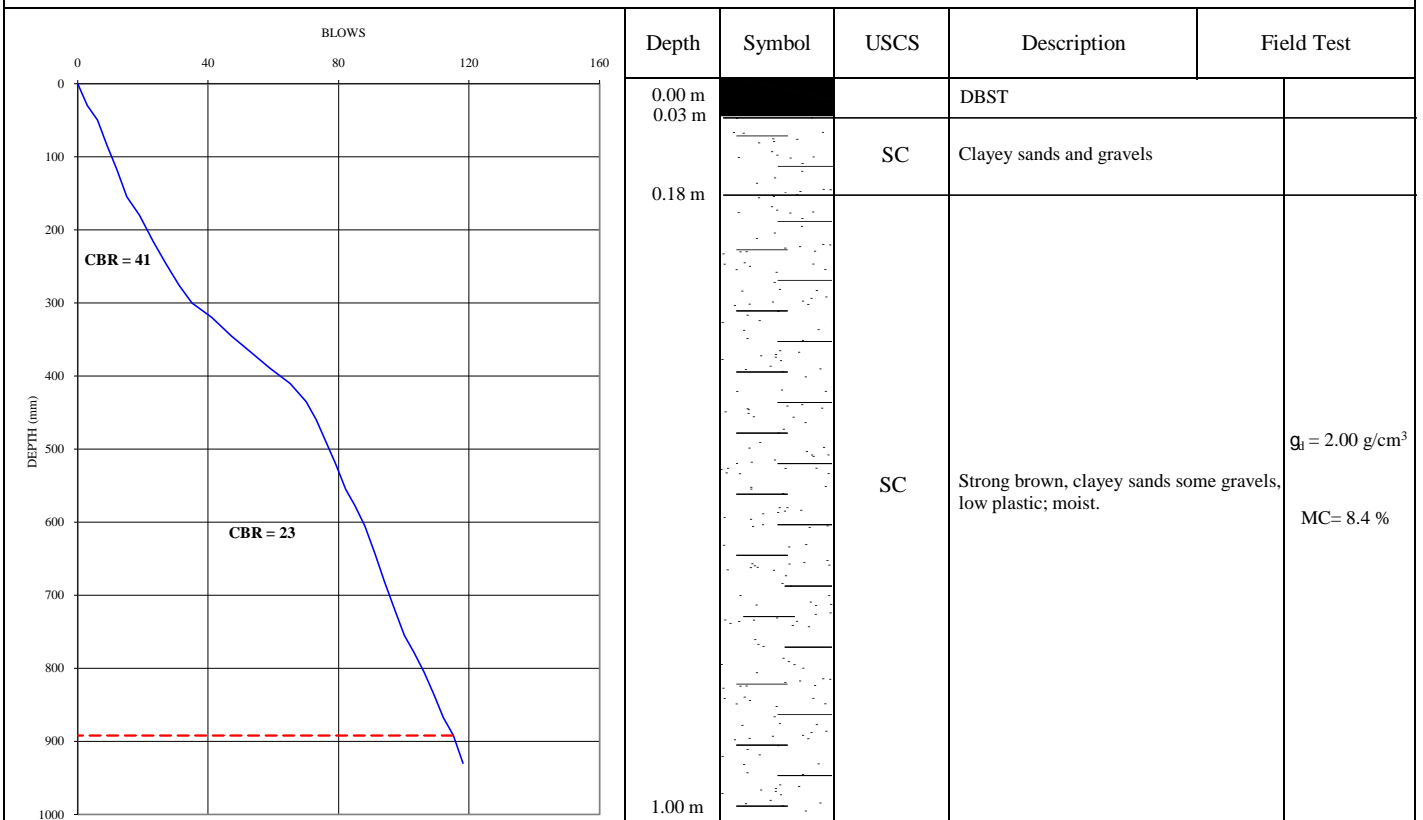
**Figure B-145 DCP Profile**



Location: Km 30+000, Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 11/08/2017



DCP Test No. 146

Test Pit No. 46

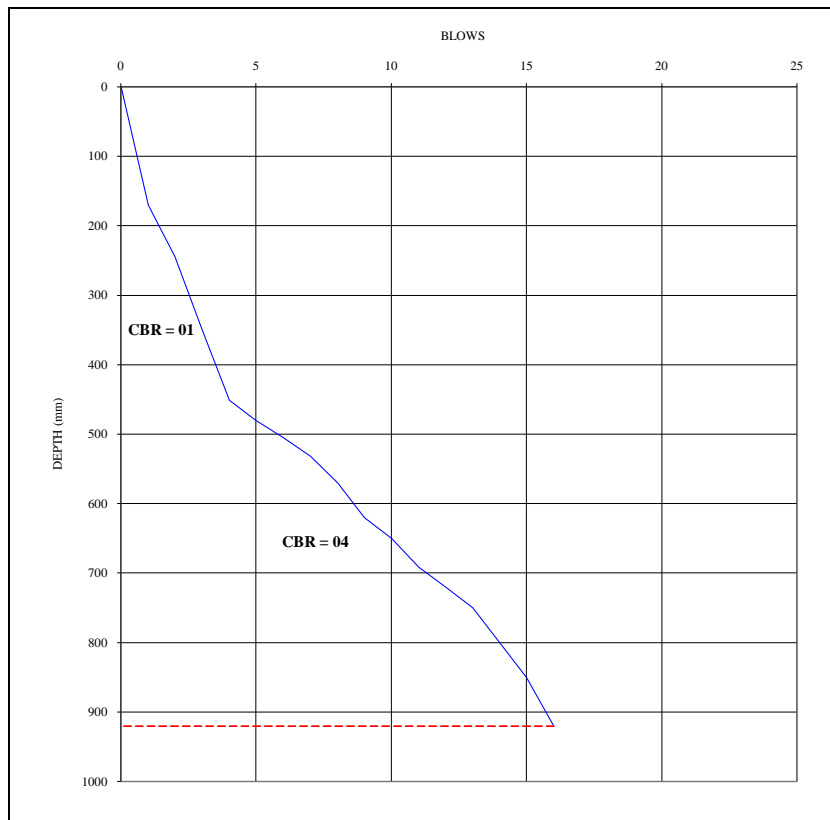
Figure B-146 DCP Profile and Test Pit Log



Location: Km 30+000, Lt/7.50 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



DCP Test No. 147

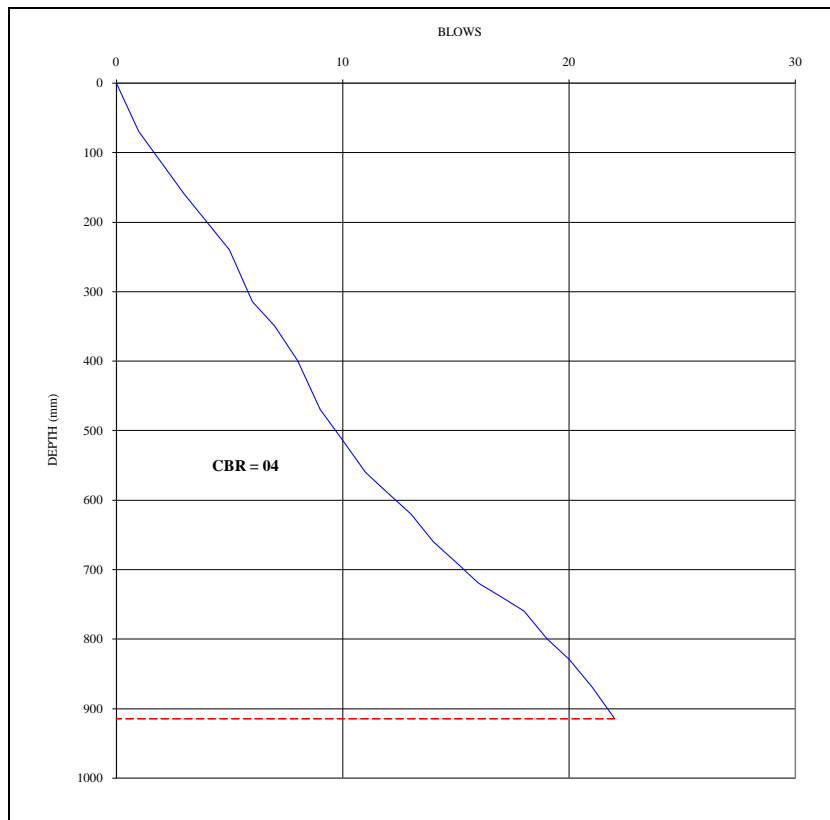
Figure B-147 DCP Profile



Location: Km 30+250, Rt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



DCP Test No. 148

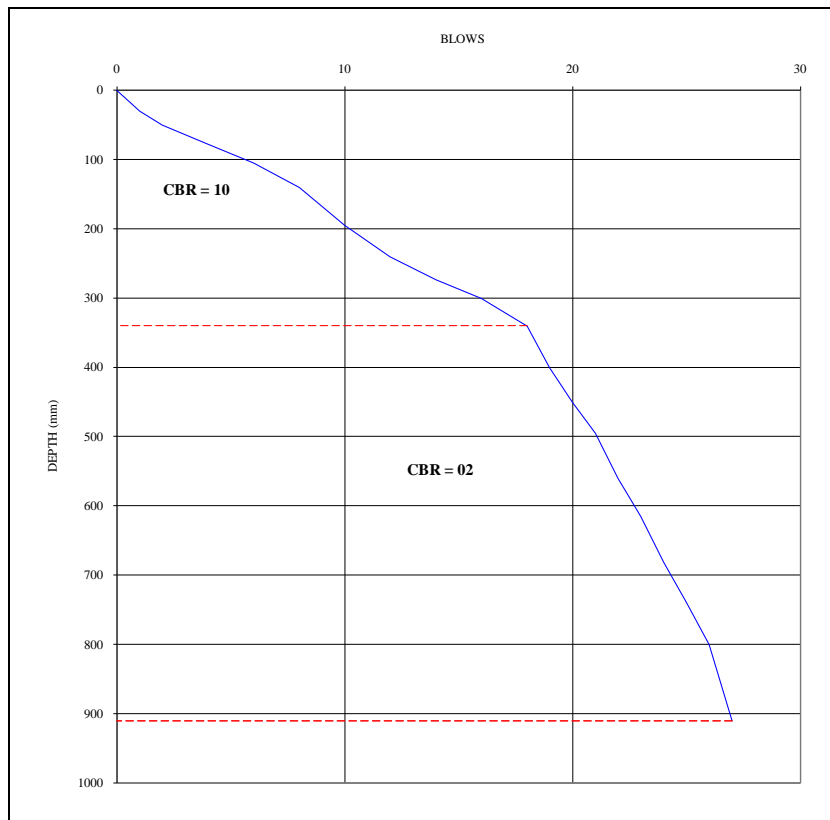
Figure B-148 DCP Profile



Location: Km 30+500, Lt/6.50 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



**DCP Test No. 149**

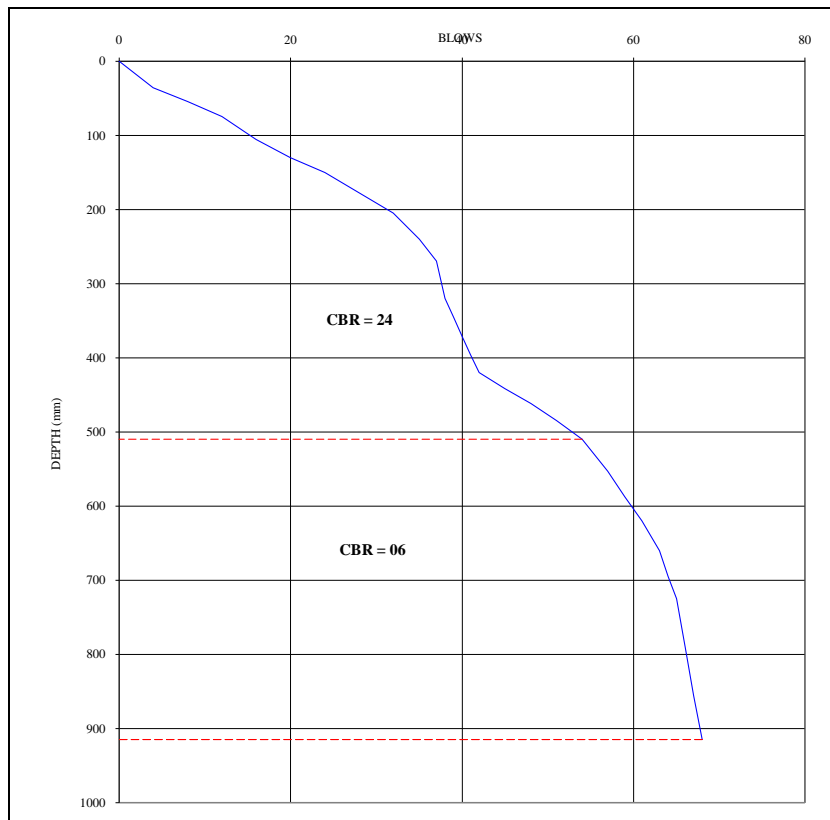
**Figure B-149 DCP Profile**



Location: Km 30+750, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 10/08/2017



DCP Test No. 150

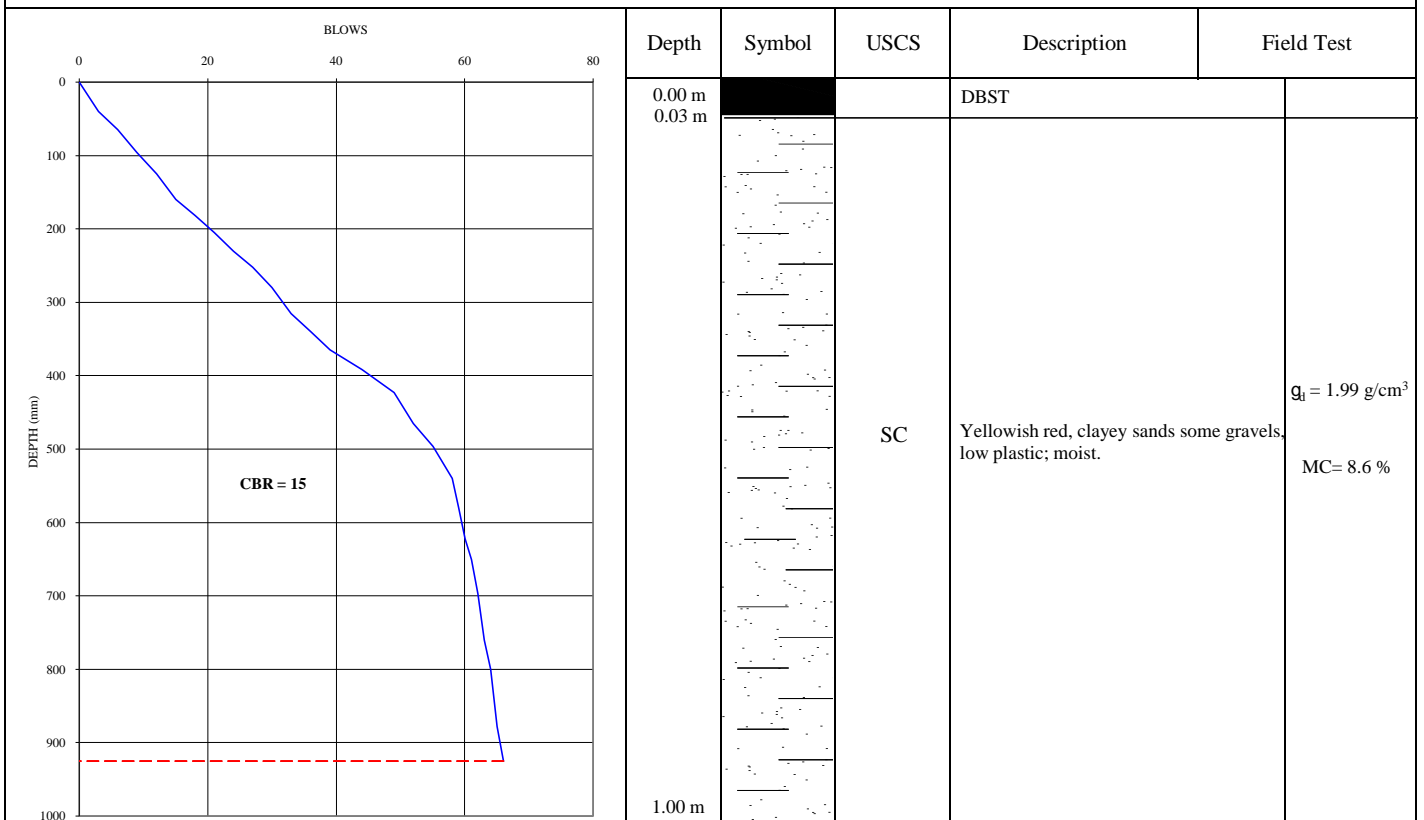
Figure B-150 DCP Profile



Location: Km 31+009, Lt/5.00 m

Depth: 0.00m - 1.00 m

Date : 11/08/2017



DCP Test No. 151

Test Pit No. 47

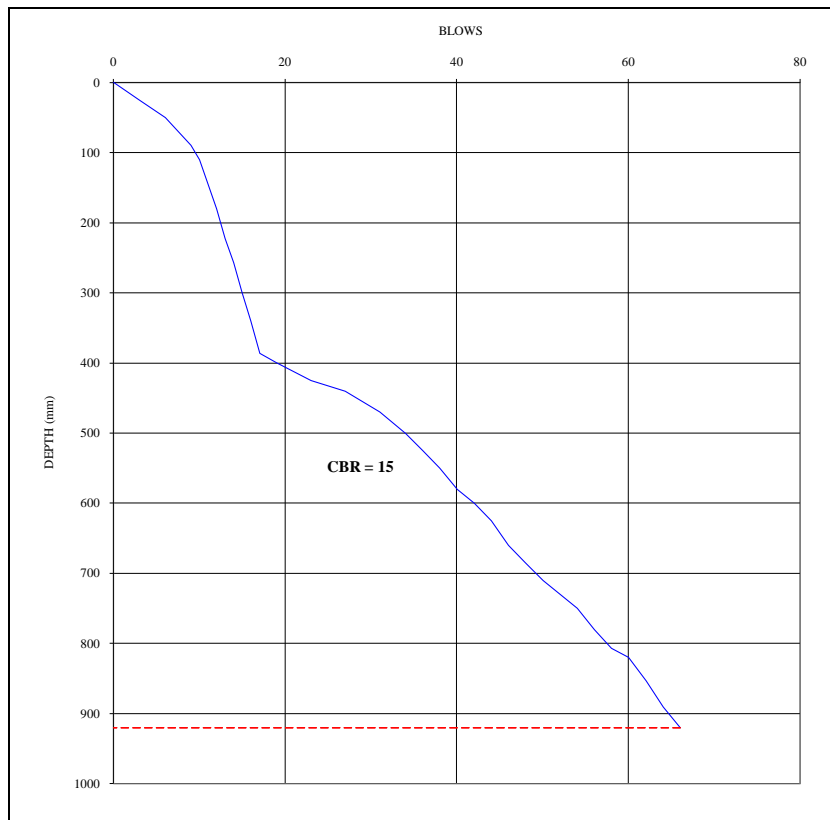
Figure B-151 DCP Profile and Test Pit Log



Location: Km 31+250, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 152

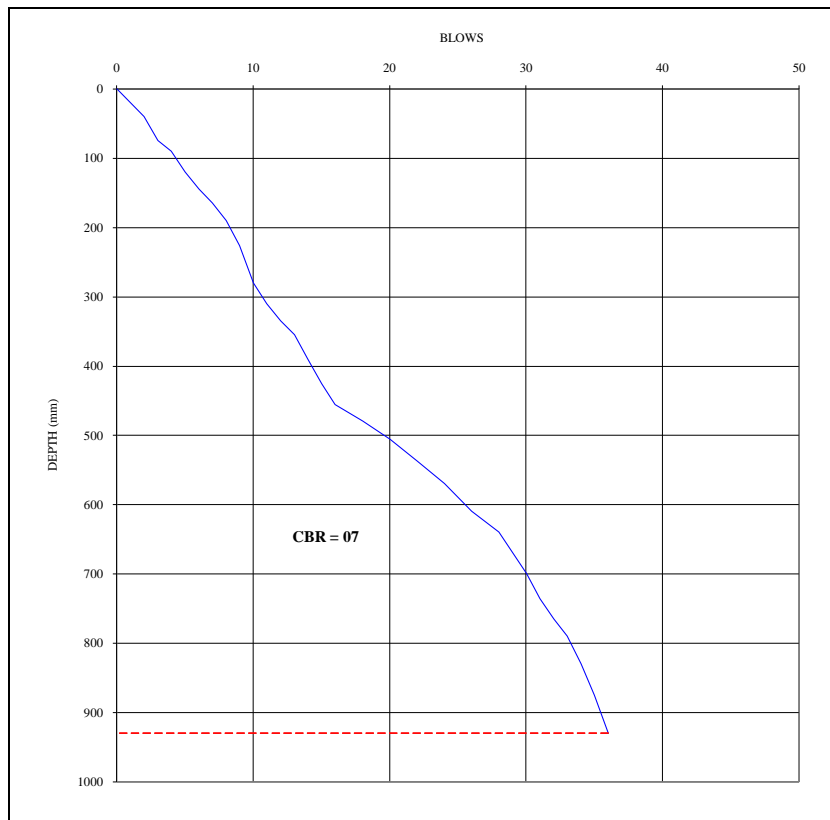
Figure B-152 DCP Profile



Location: Km 31+500, Lt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



**DCP Test No. 153**

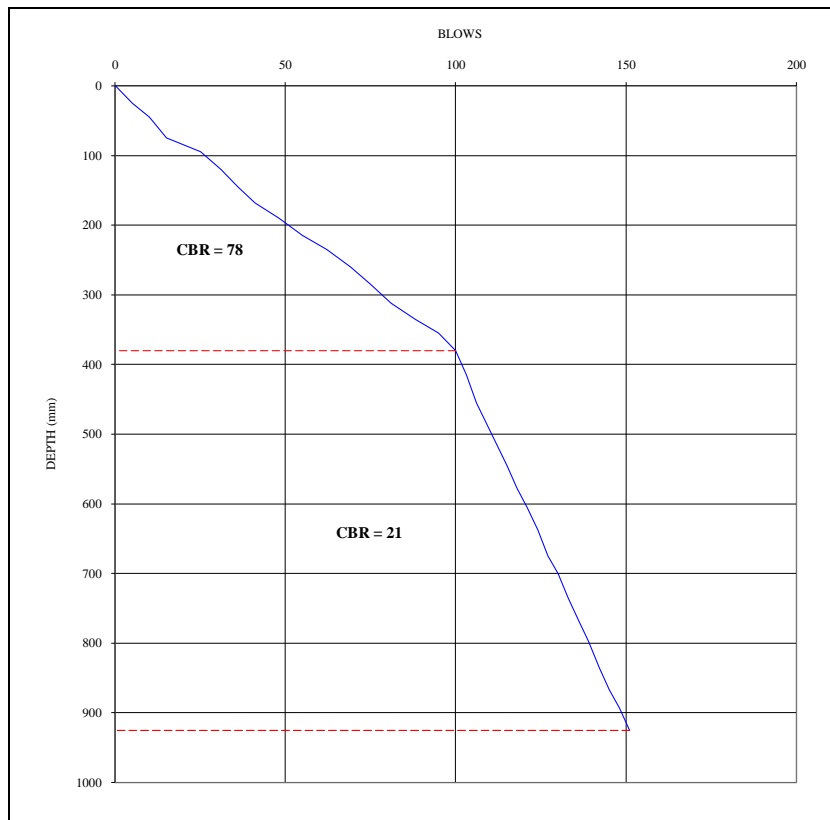
**Figure B-153 DCP Profile**



Location: Km 31+750, Rt/5.20 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 154

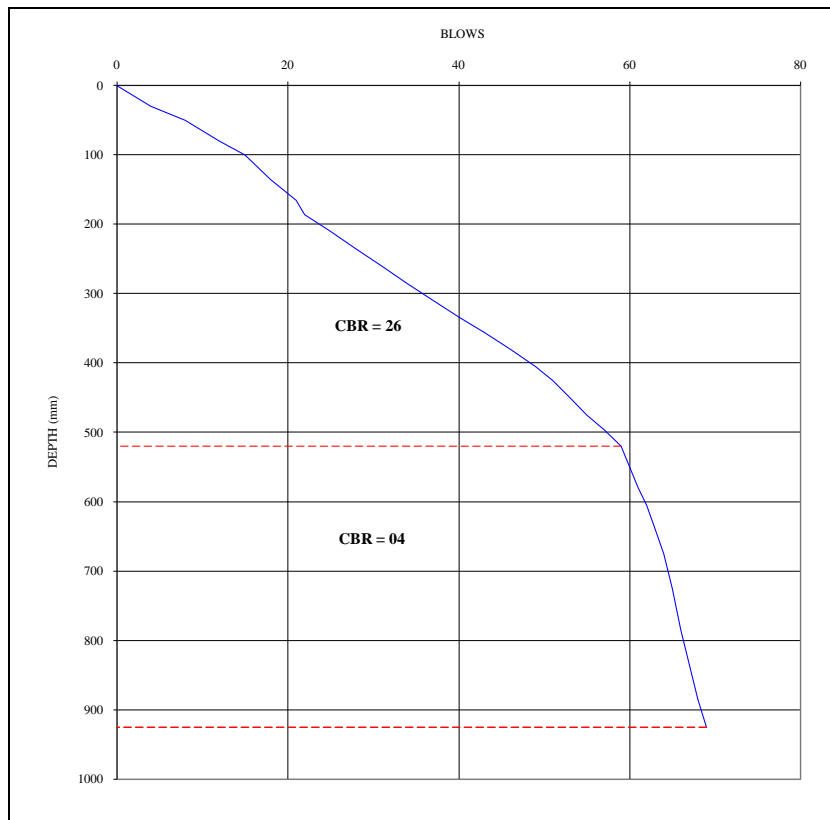
Figure B-154 DCP Profile



Location: Km 32+000, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 155

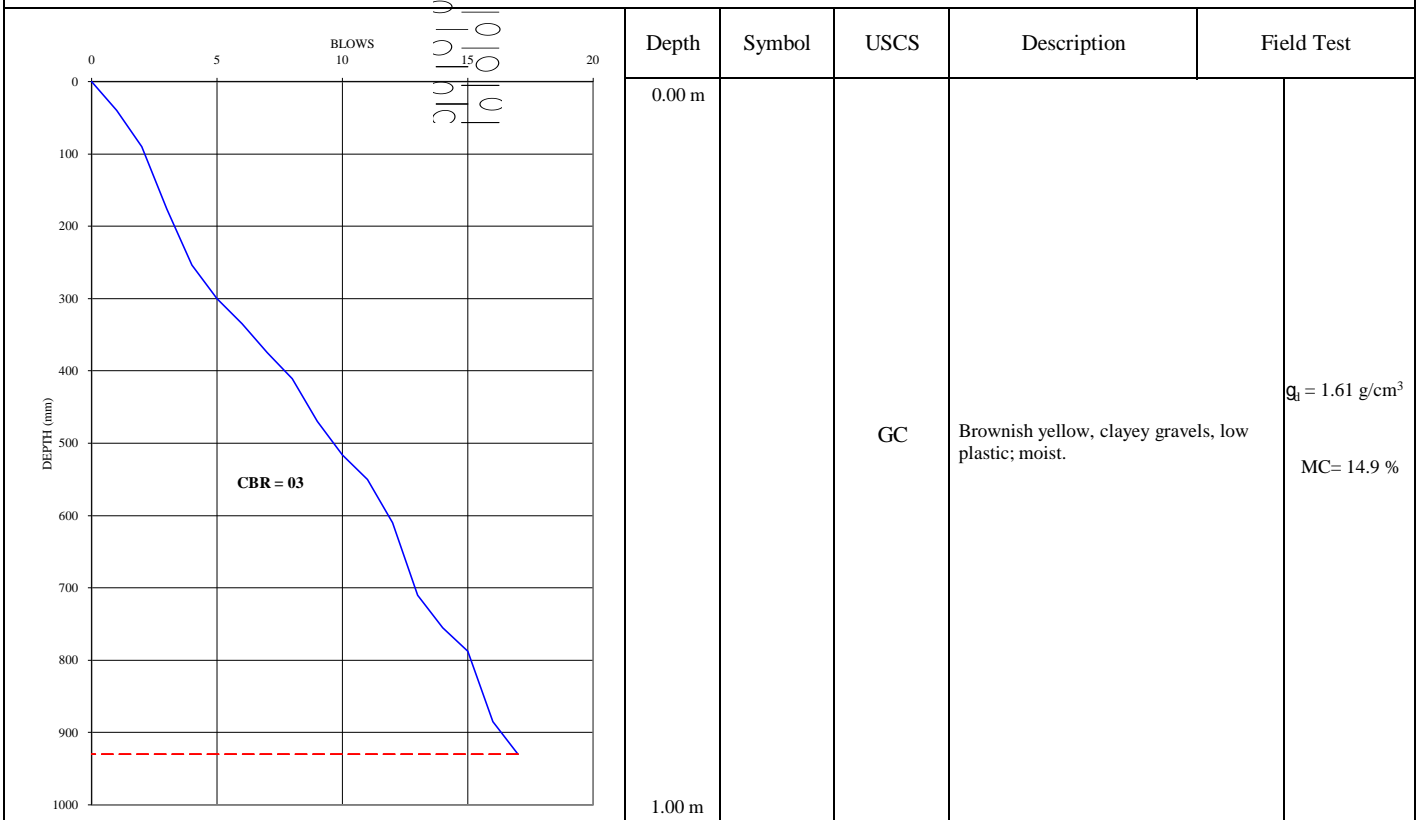
Figure B-155 DCP Profile



Location: Km 32+000, Rt/8.00 m

Depth: 0.00m - 1.00 m

Date : 12/08/2017



DCP Test No. 156

Test Pit No. 48

Figure B-156 DCP Profile and Test Pit Log

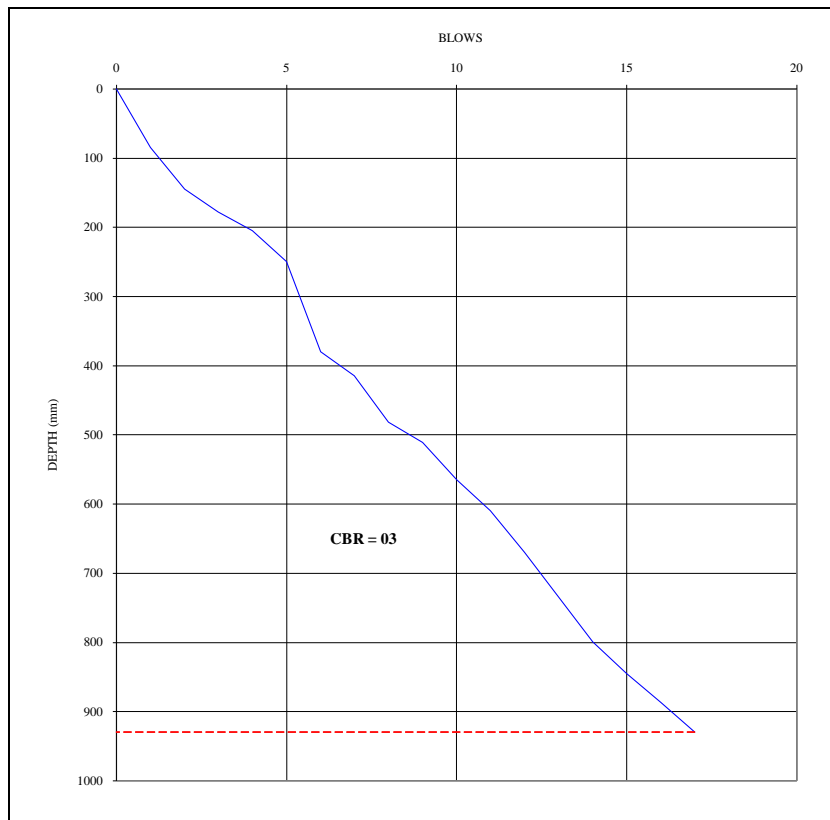




Location: Km 32+500, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 158

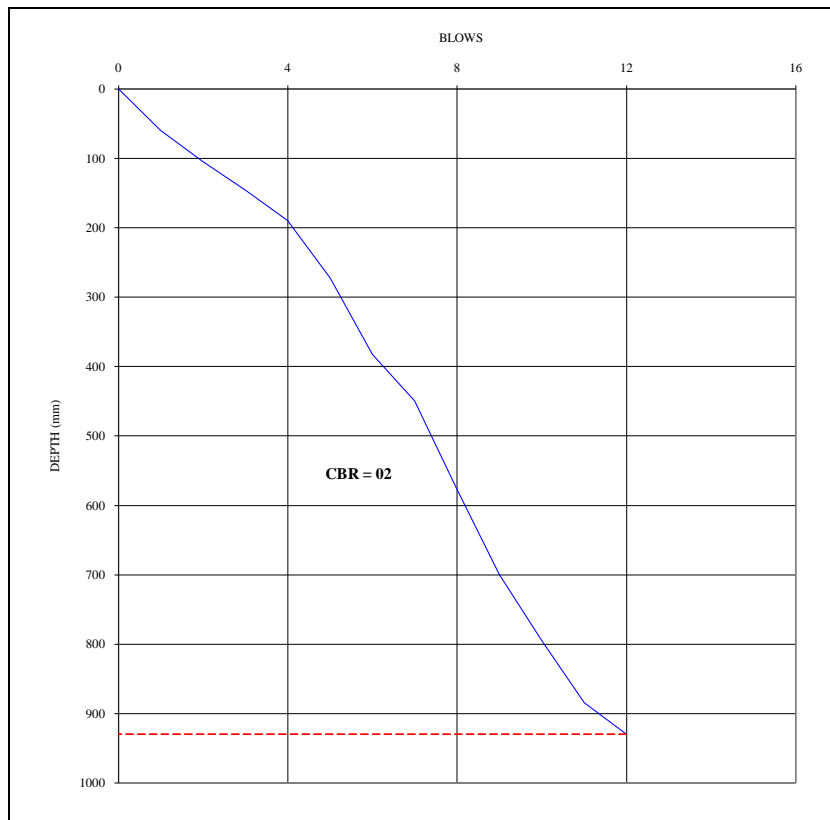
Figure B-158 DCP Profile



Location: Km 32+750, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



**DCP Test No. 159**

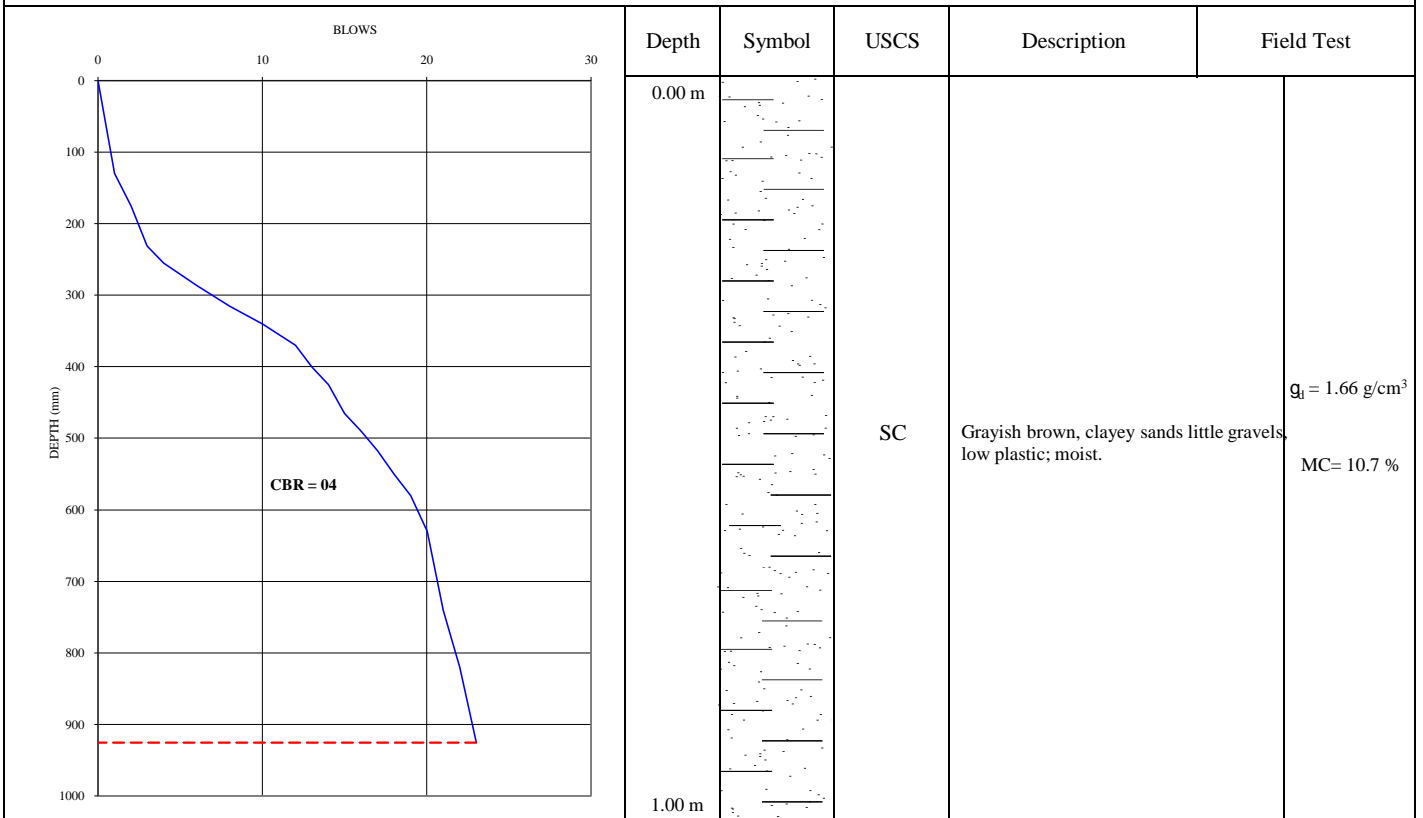
**Figure B-159 DCP Profile**



Location: Km 33+000, Lt/8.00 m

Depth: 0.00m - 1.00 m

Date : 12/08/2017



DCP Test No. 160

Test Pit No. 49

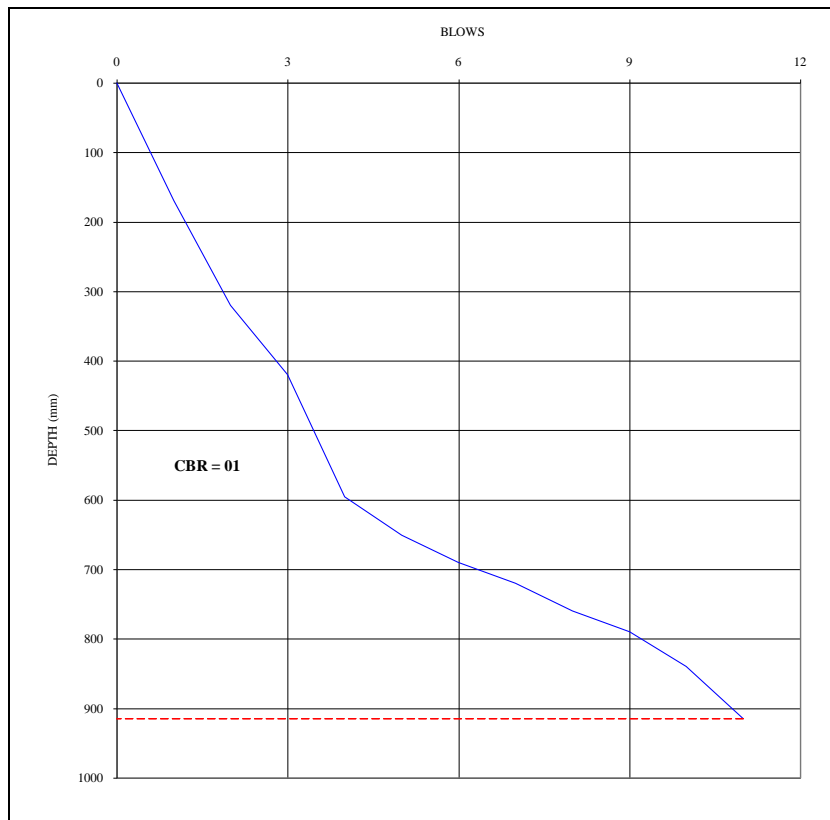
Figure B-160 DCP Profile and Test Pit Log



Location: Km 33+000, Rt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 161

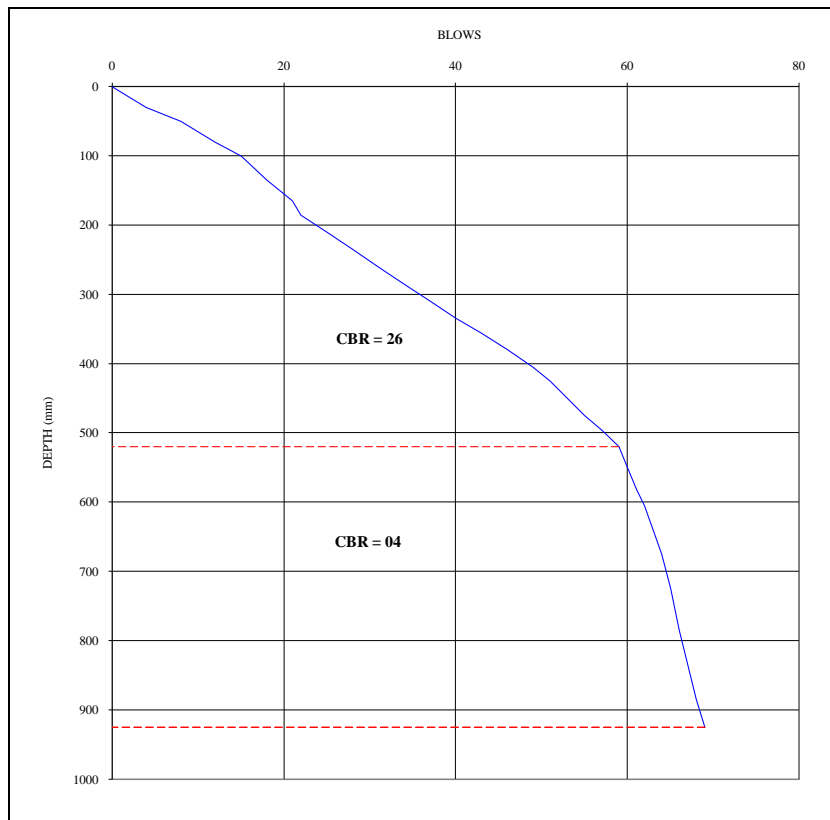
Figure B-161 DCP Profile



Location: Km 33+250, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 162

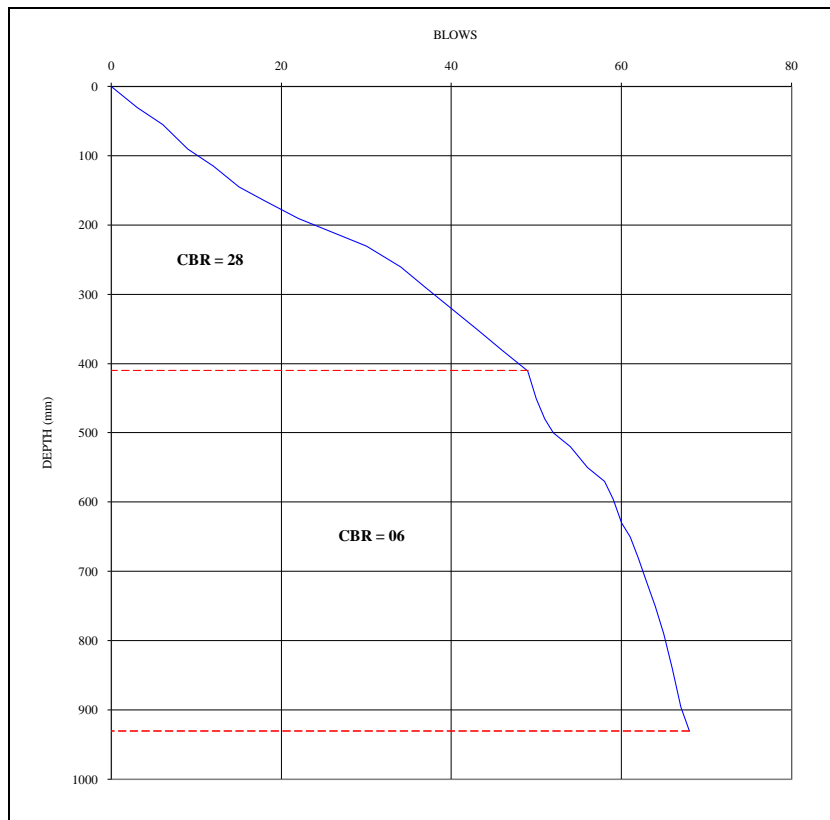
Figure B-162 DCP Profile



Location: Km 33+500, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



**DCP Test No. 163**

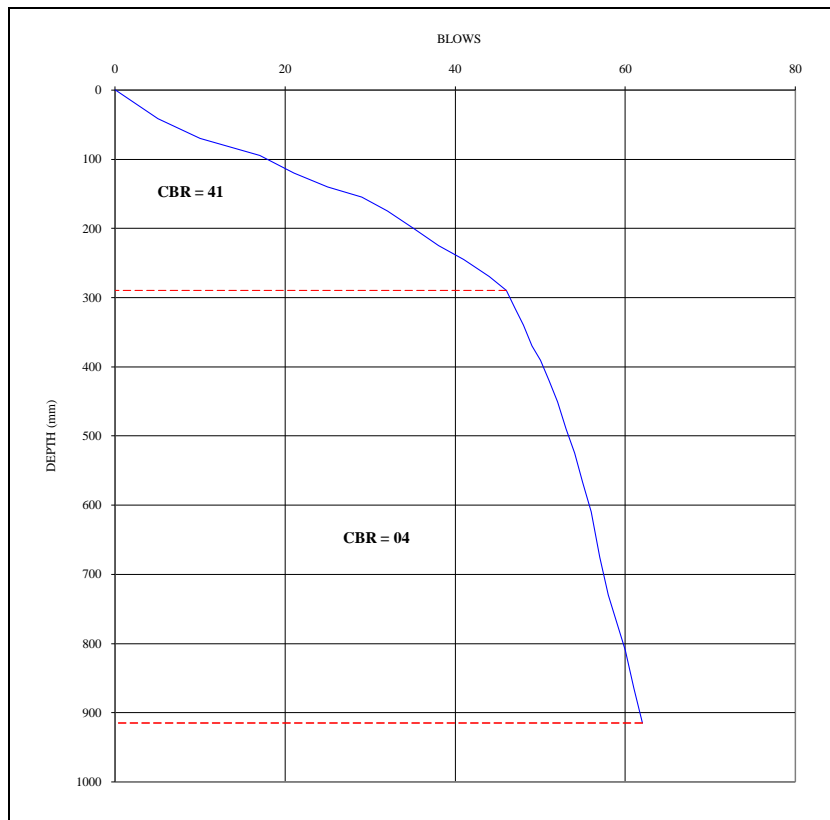
**Figure B-163 DCP Profile**



Location: Km 33+750, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



**DCP Test No. 164**

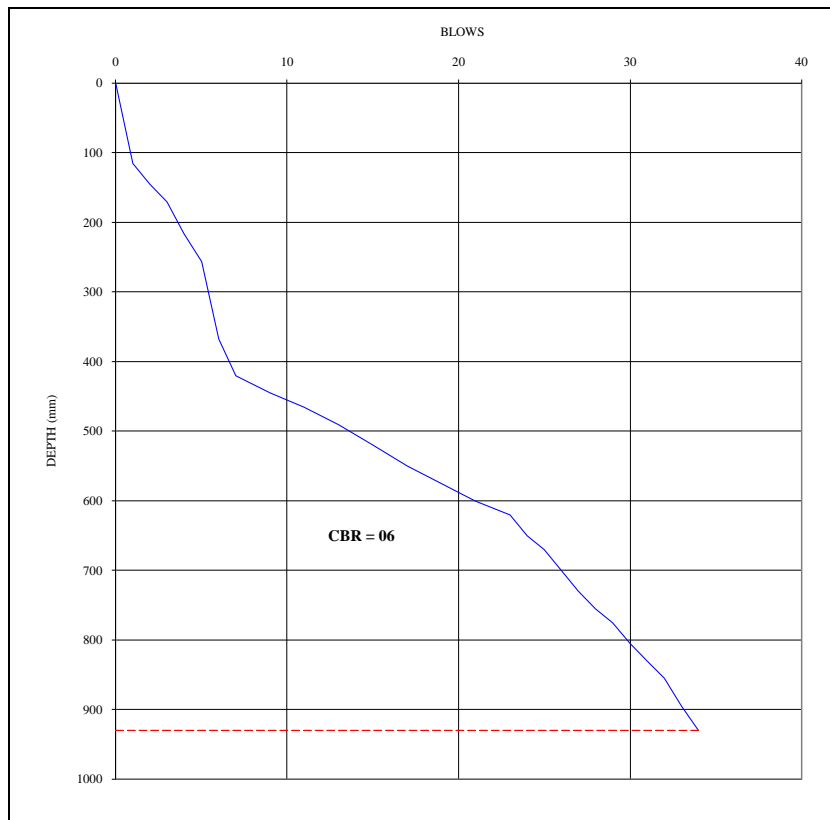
**Figure B-164 DCP Profile**



Location: Km 33+990, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 165

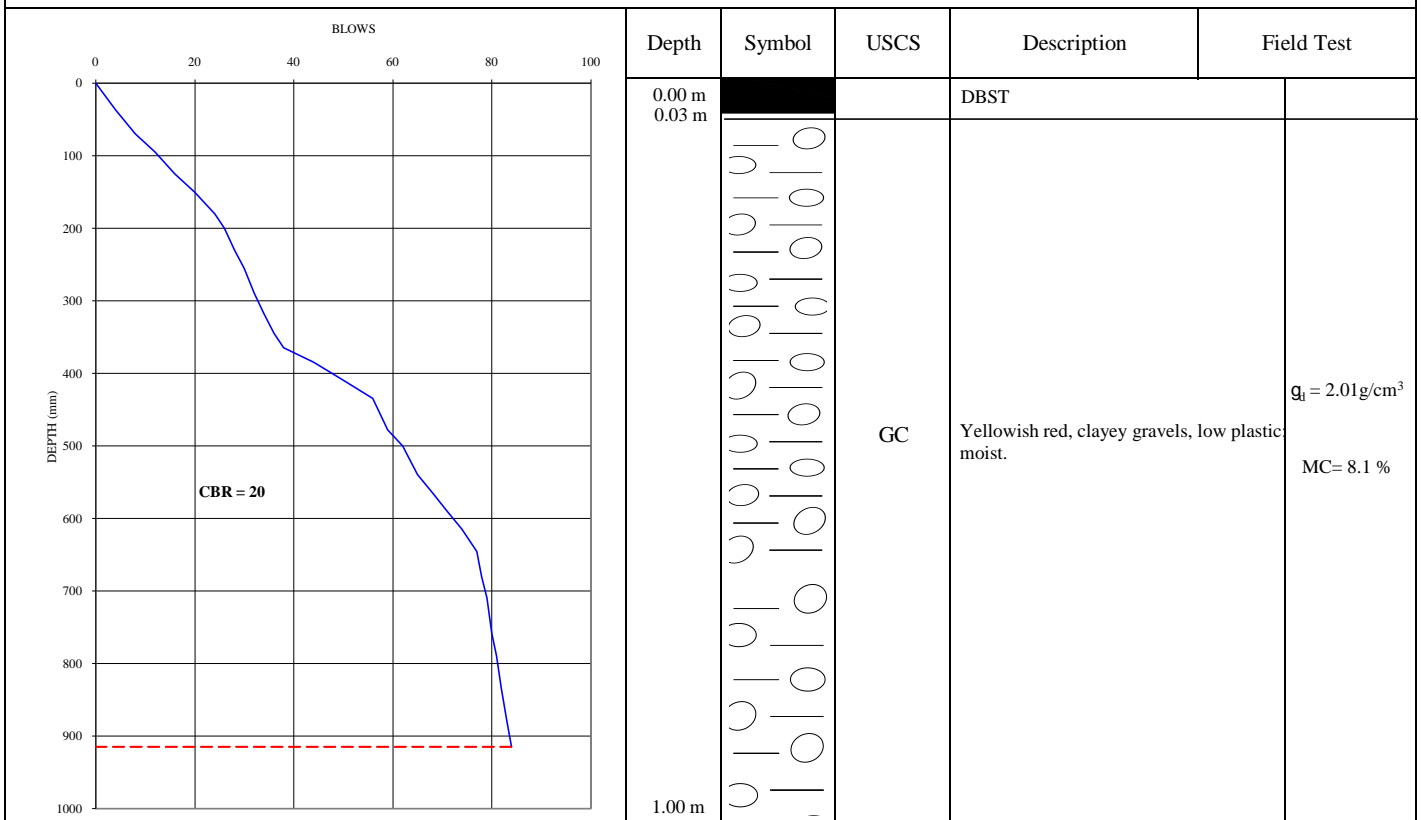
Figure B-165 DCP Profile



Location: Km 34+010, Rt/5.50 m

Depth: 0.00m - 1.00 m

Date : 12/08/2017



DCP Test No. 166

Test Pit No. 50

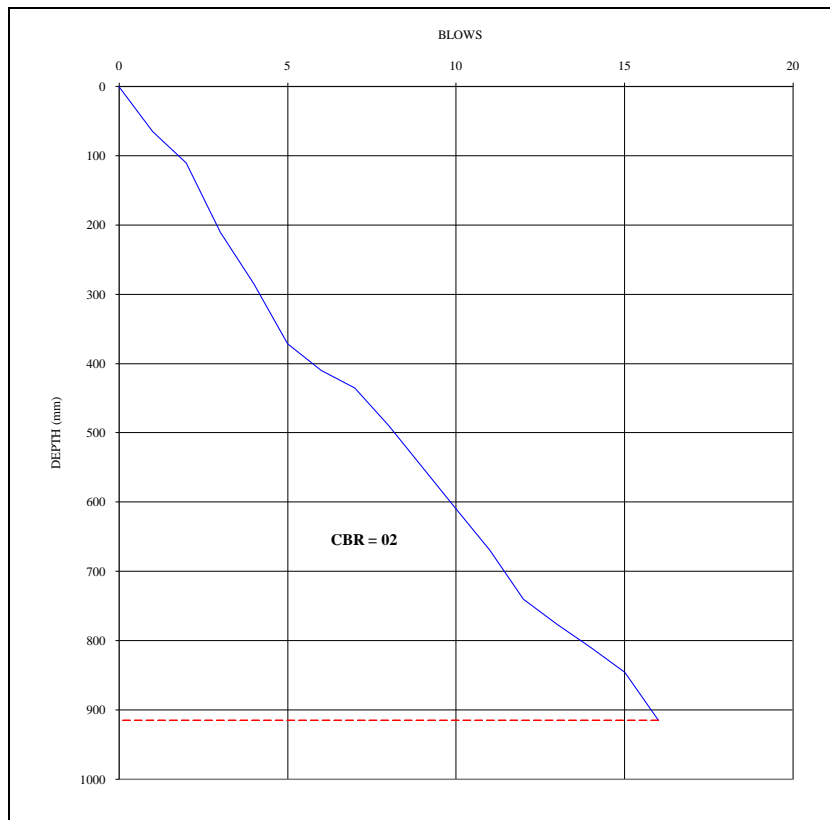
Figure B-166 DCP Profile and Test Pit Log



Location: Km 34+250, Rt/8.50 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



**DCP Test No. 167**

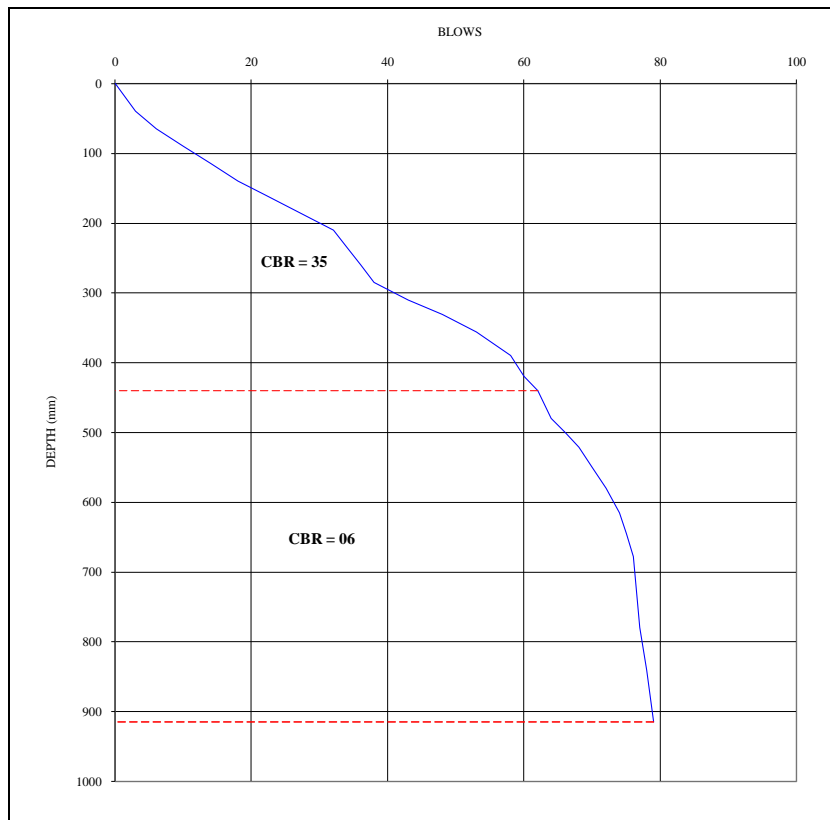
**Figure B-167 DCP Profile**



Location: Km 34+500, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



**DCP Test No. 168**

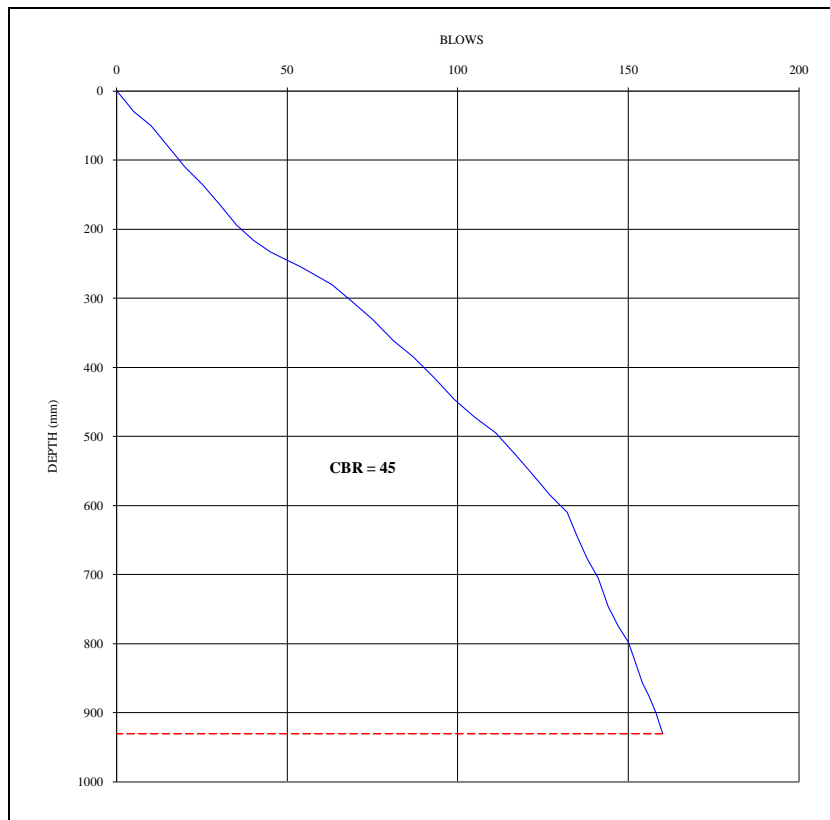
**Figure B-168 DCP Profile**



Location: Km 34+750, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



DCP Test No. 169

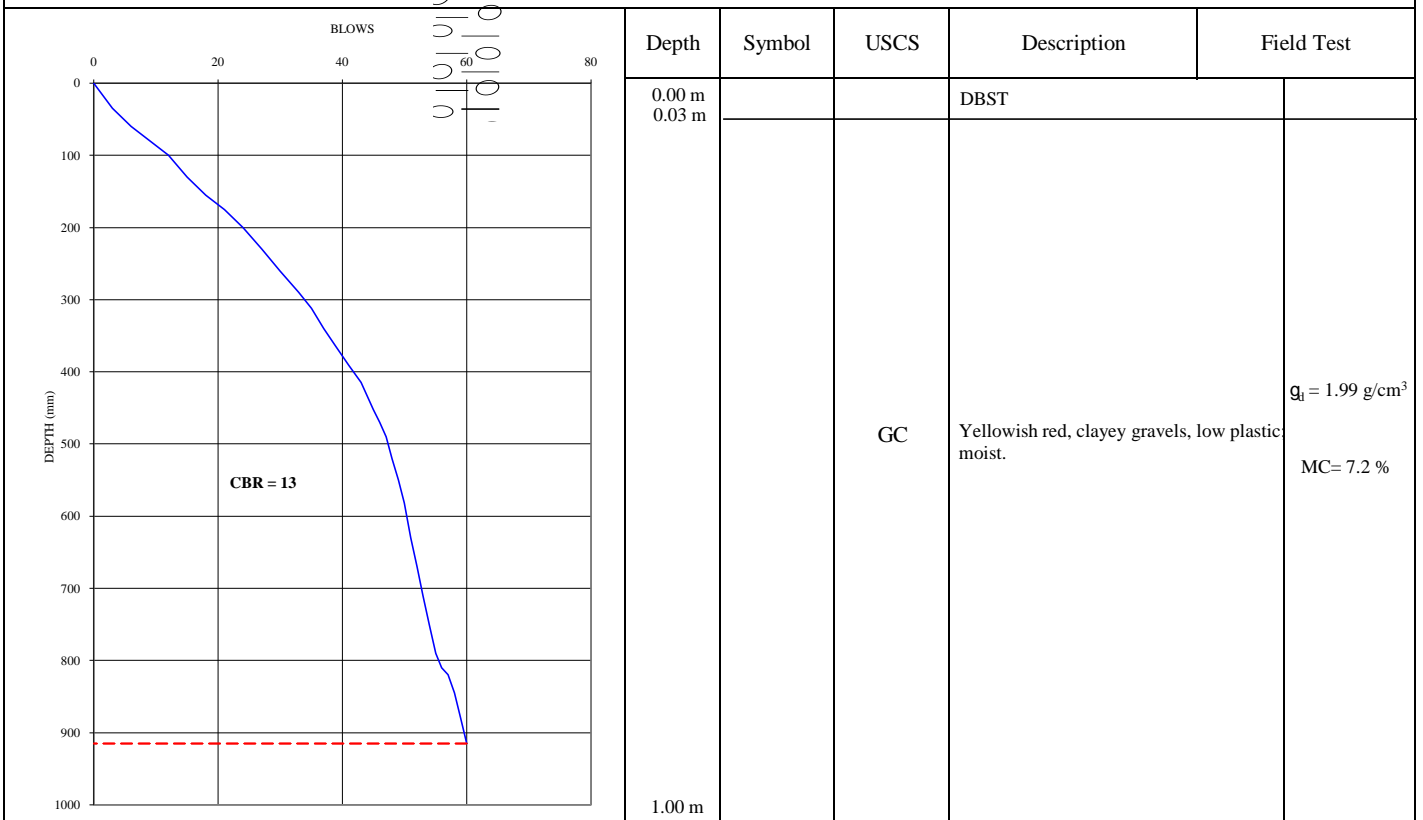
Figure B-169 DCP Profile



Location: Km 35+000 Lt/5.50 m

Depth: 0.00m - 1.00 m

Date : 12/08/2017



DCP Test No. 170

Test Pit No. 51

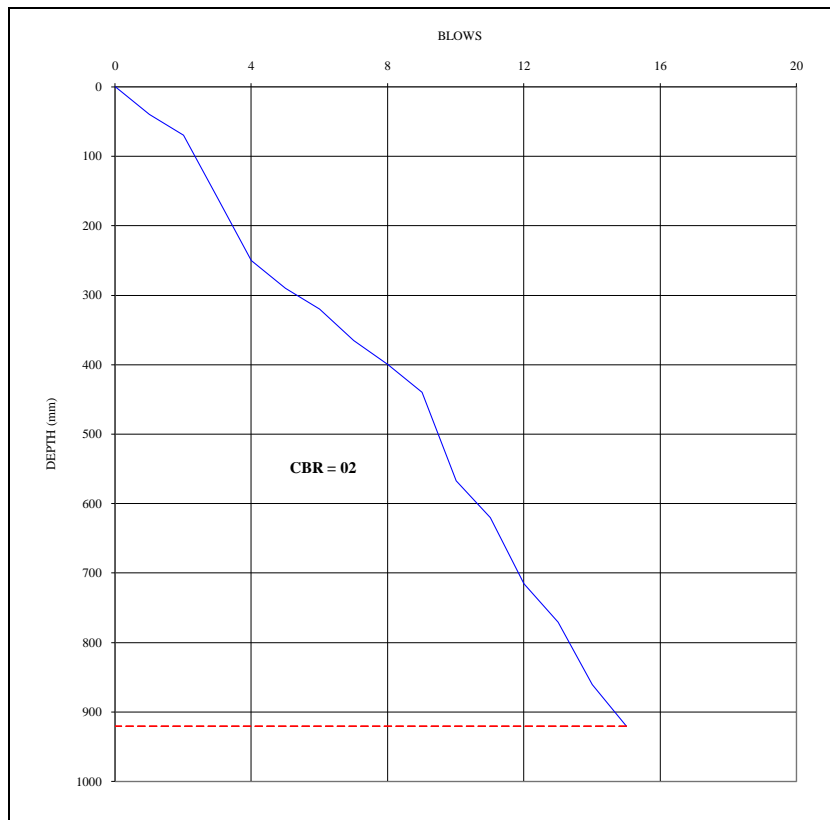
Figure B-170 DCP Profile and Test Pit Log



Location: Km 35+000, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 11/08/2017



**DCP Test No. 171**

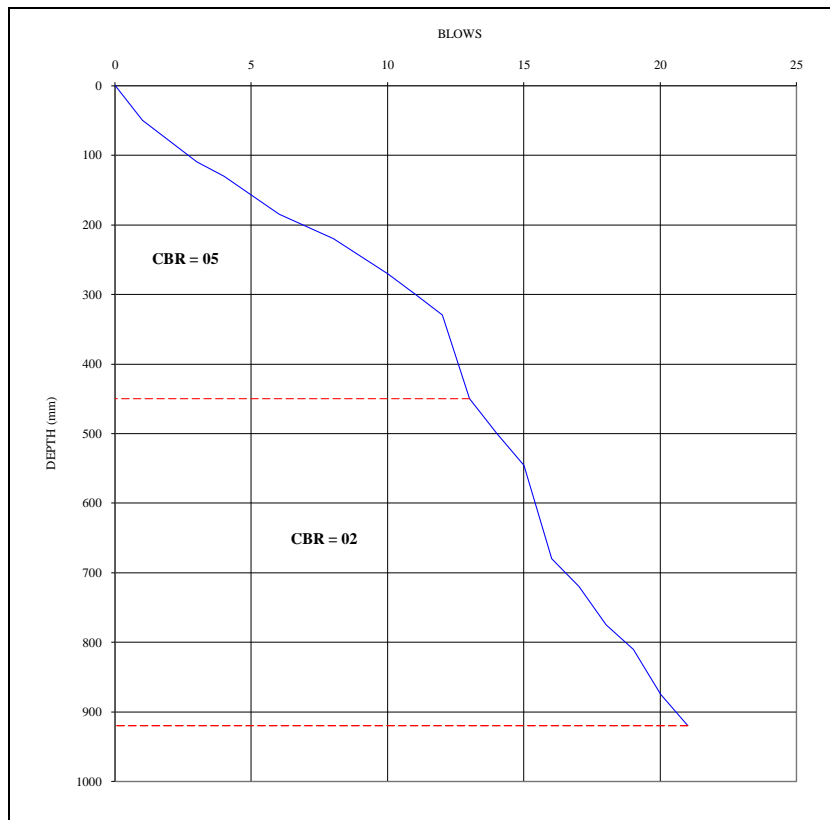
**Figure B-171 DCP Profile**



Location: Km 35+250, Lt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



DCP Test No. 172

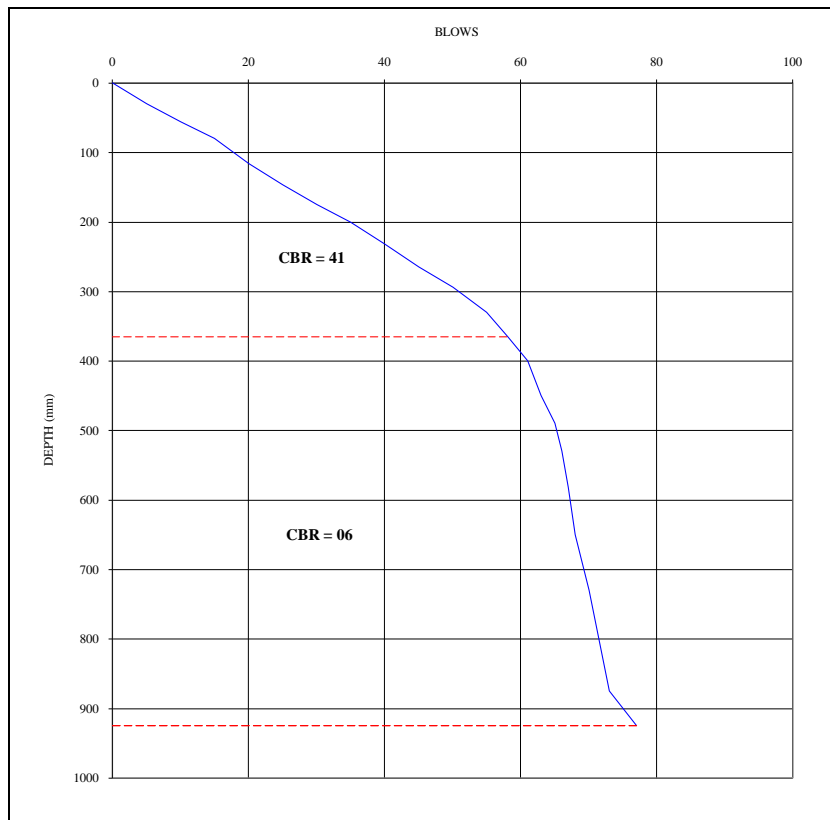
Figure B-172 DCP Profile



Location: Km 35+500, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 173**

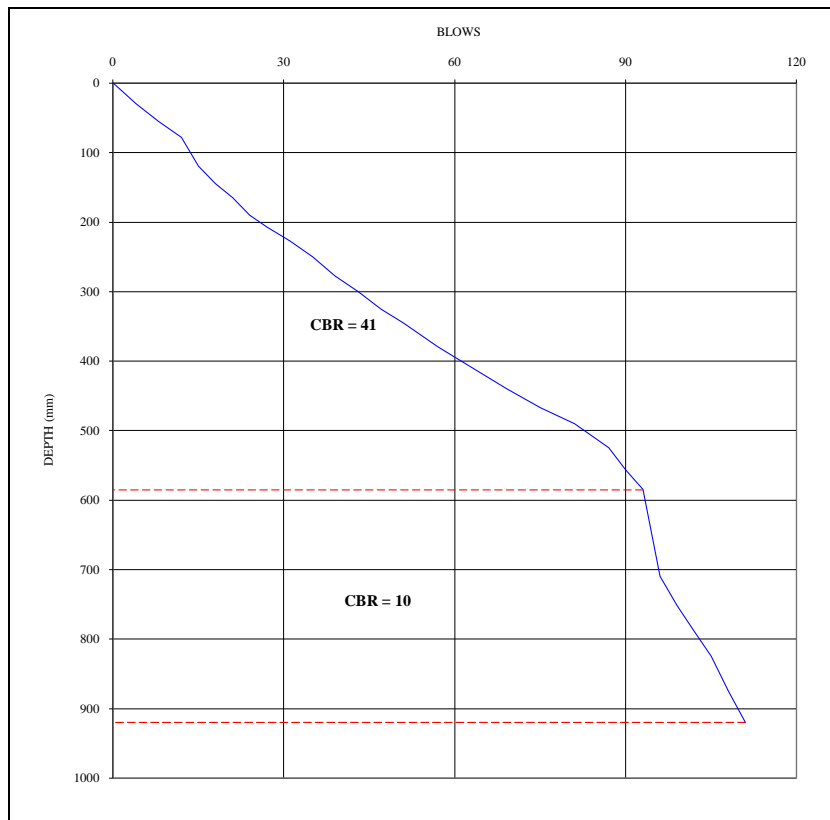
**Figure B-173 DCP Profile**



Location: Km 35+750, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 174**

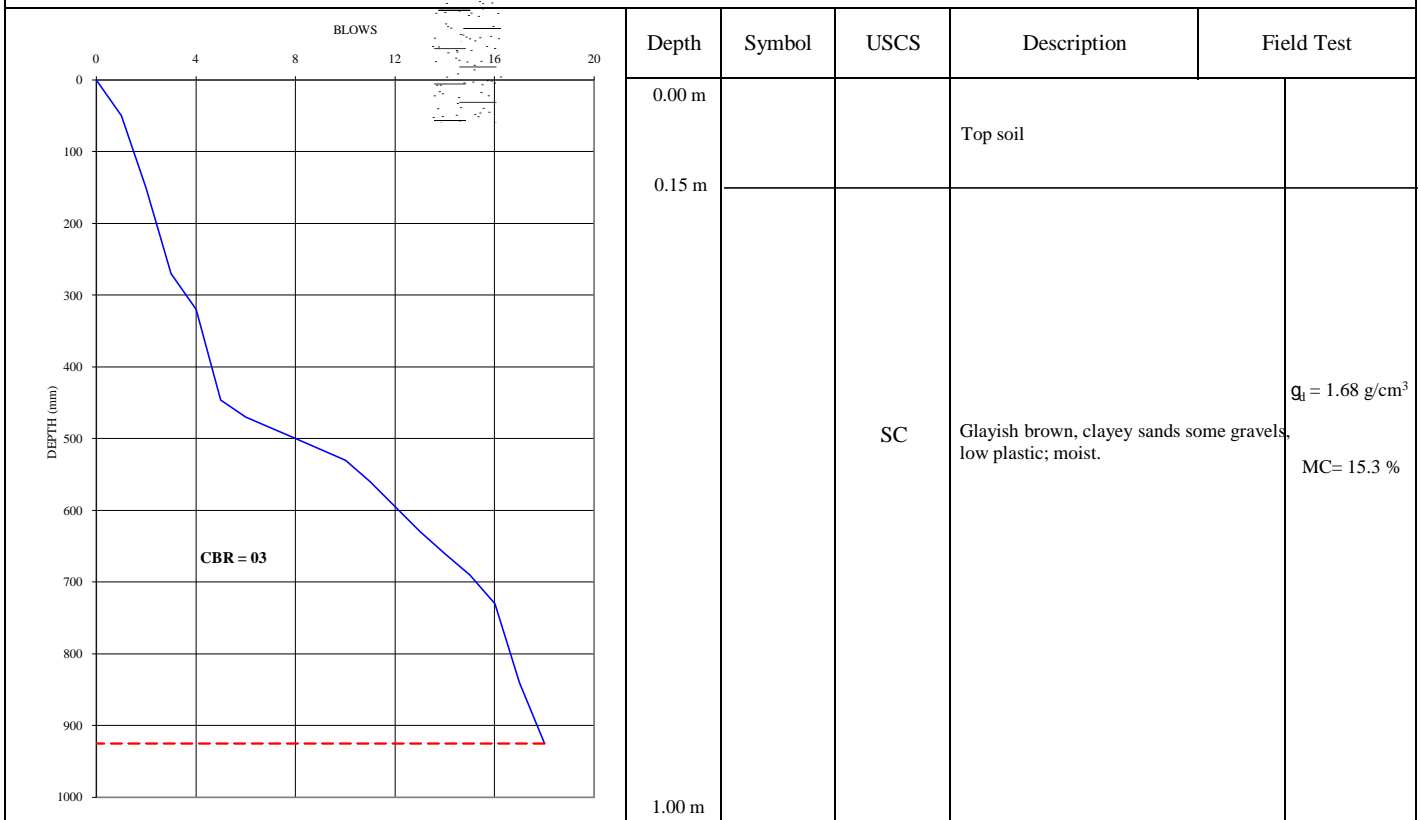
**Figure B-174 DCP Profile**



Location: Km 36+015 Rt/8.00 m

Depth: 0.00m - 1.00 m

Date : 12/08/2017



DCP Test No. 175

Test Pit No. 52

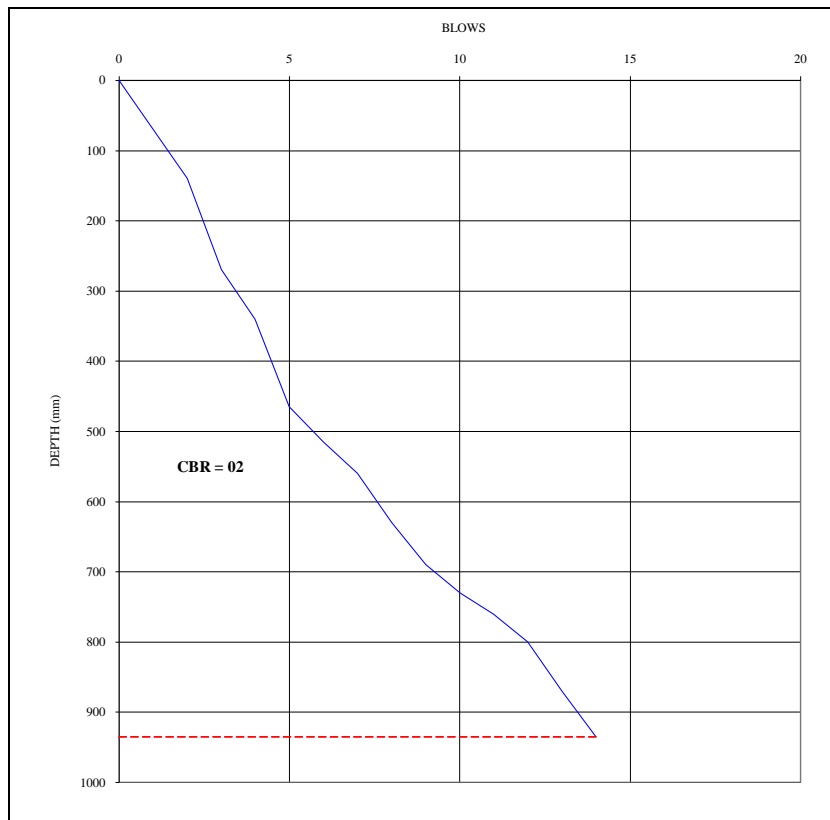
Figure B-175 DCP Profile and Test Pit Log



Location: Km 36+000, Lt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 176**

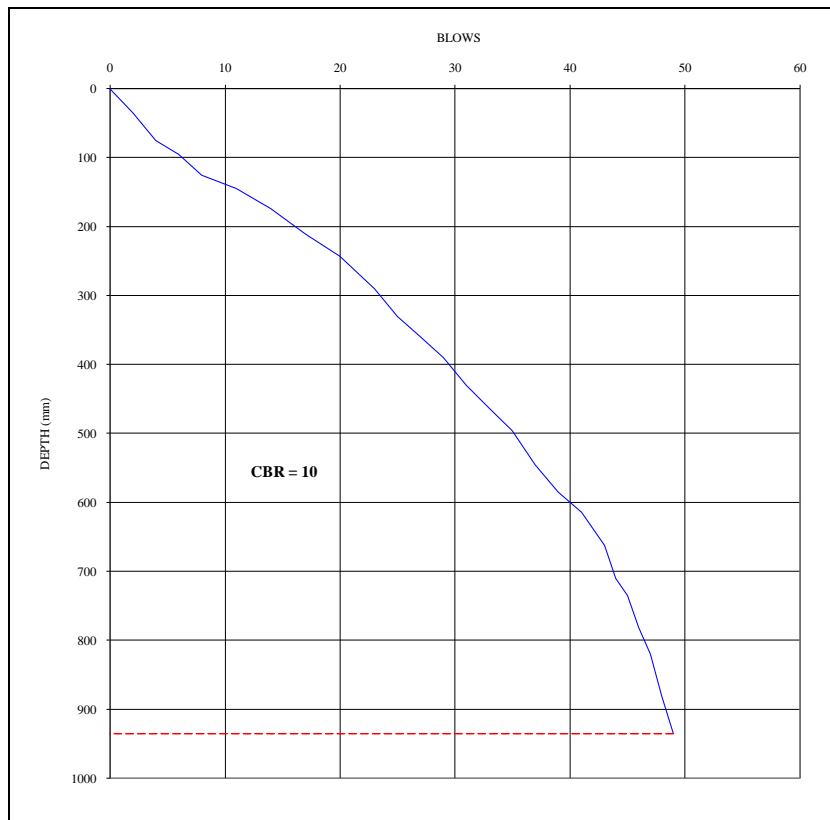
**Figure B-176 DCP Profile**



Location: Km 36+250, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 177**

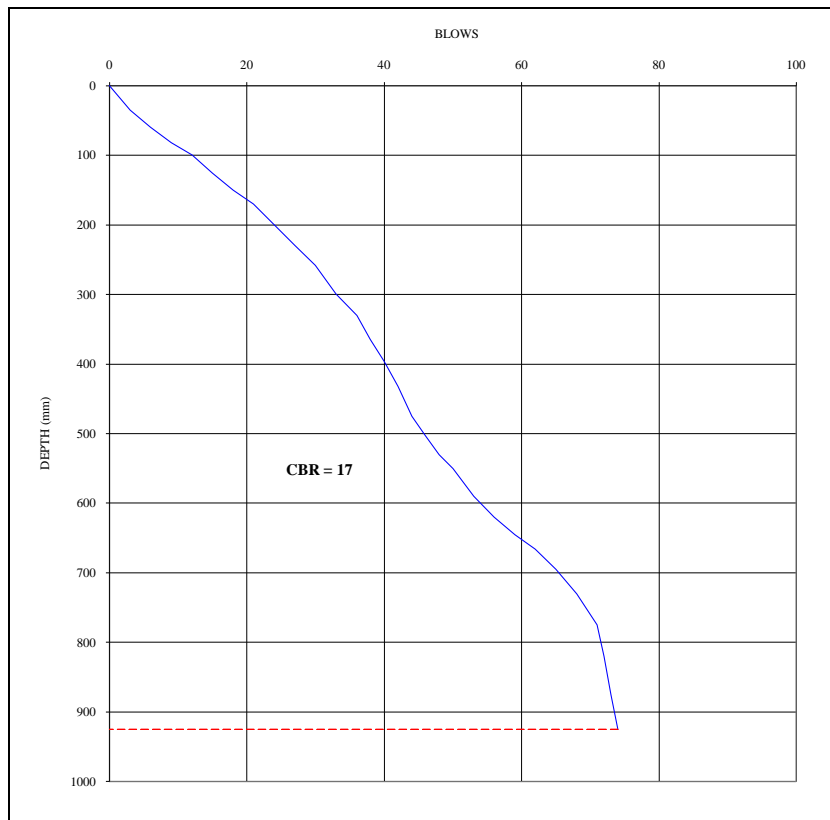
**Figure B-177 DCP Profile**



Location: Km 36+500, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 178**

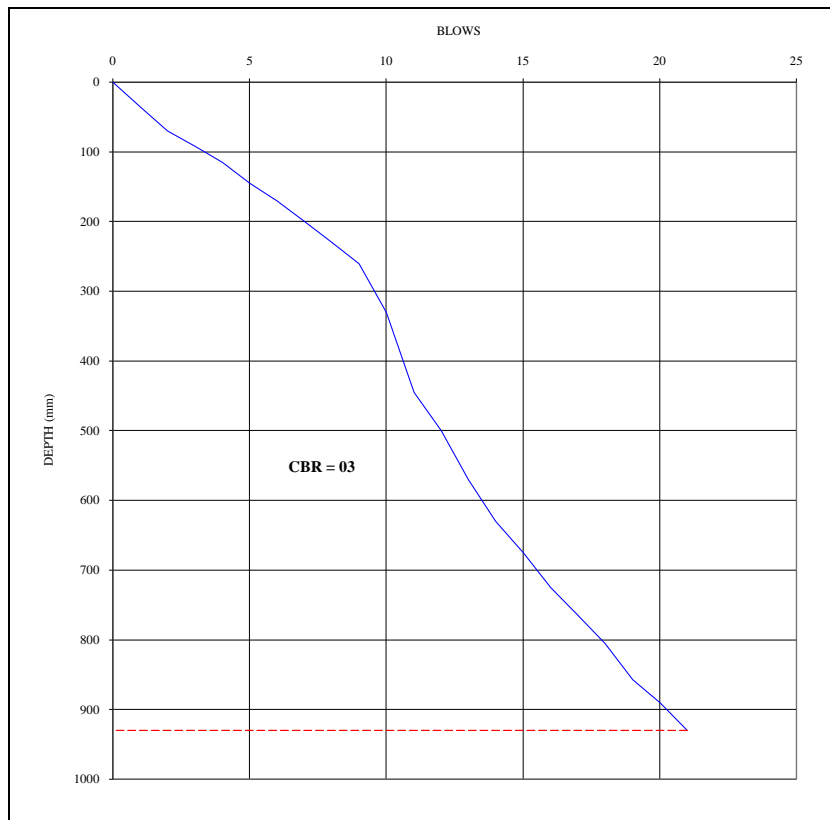
**Figure B-178 DCP Profile**



Location: Km 36+750, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



DCP Test No. 179

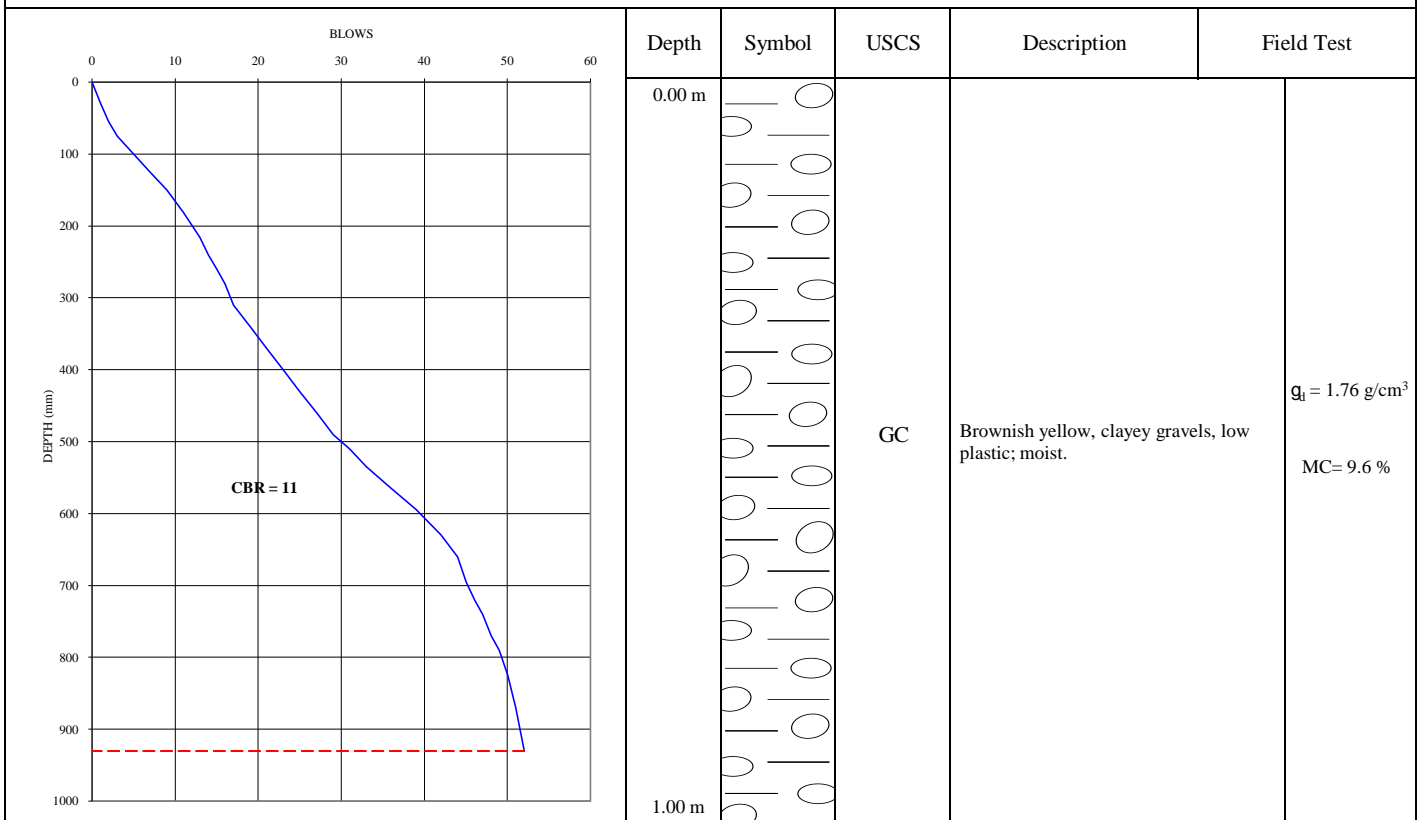
Figure B-179 DCP Profile



Location: Km 37+010 Lt/7.50 m

Depth: 0.00m - 1.00 m

Date : 12/08/2017



DCP Test No. 180

Test Pit No. 53

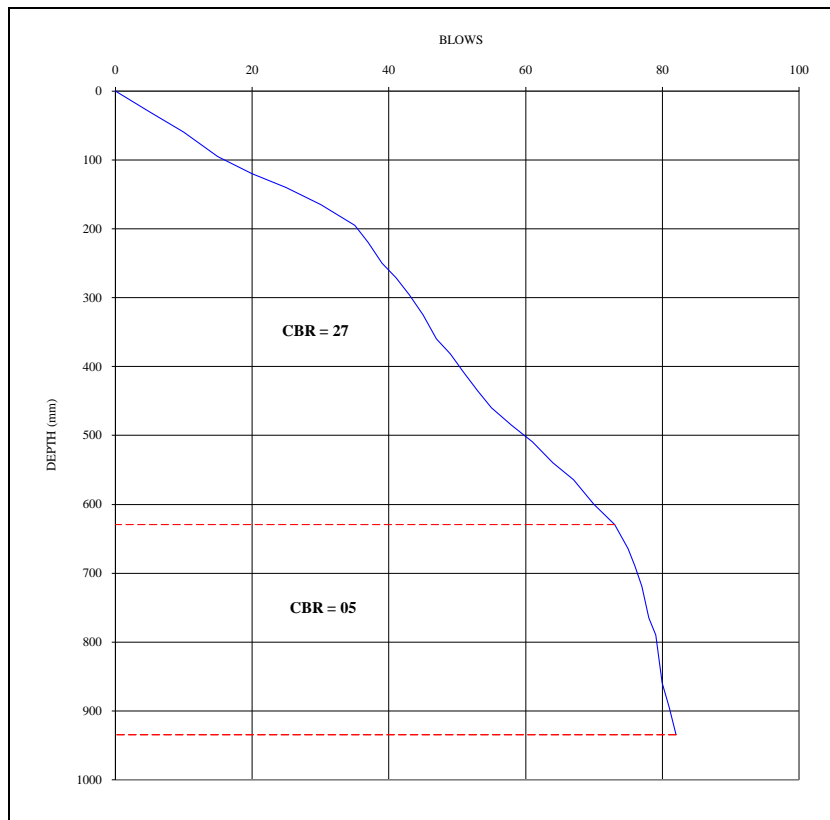
Figure B-180 DCP Profile and Test Pit Log



Location: Km 37+010, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



DCP Test No. 181

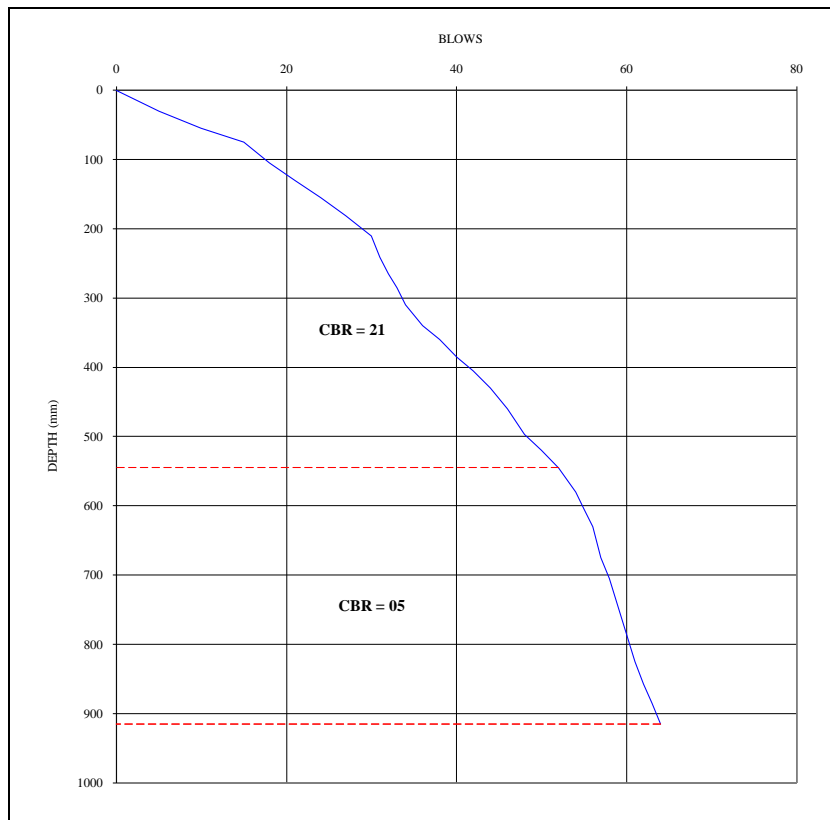
Figure B-181 DCP Profile



Location: Km 37+250, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 182**

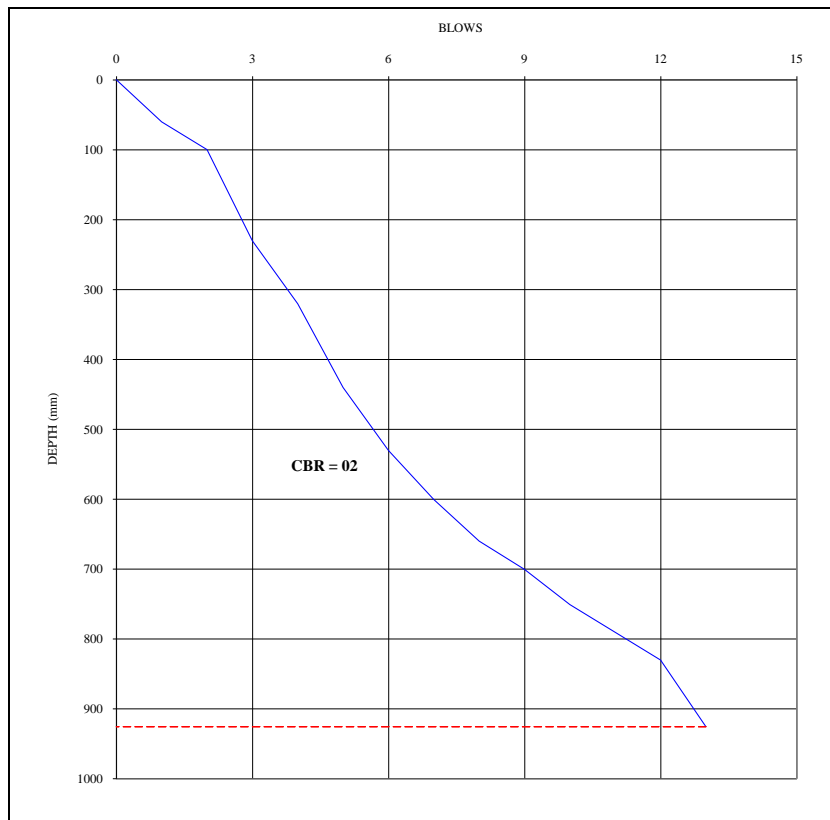
**Figure B-182 DCP Profile**



Location: Km 37+500, Rt/10.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



DCP Test No. 183

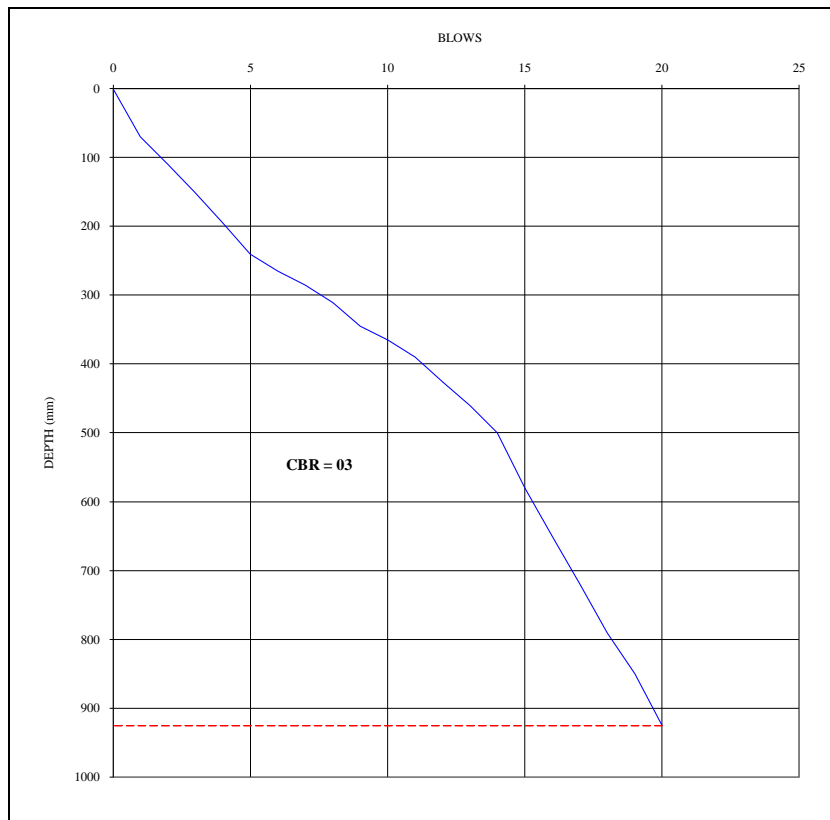
Figure B-183 DCP Profile



Location: Km 37+750, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 184**

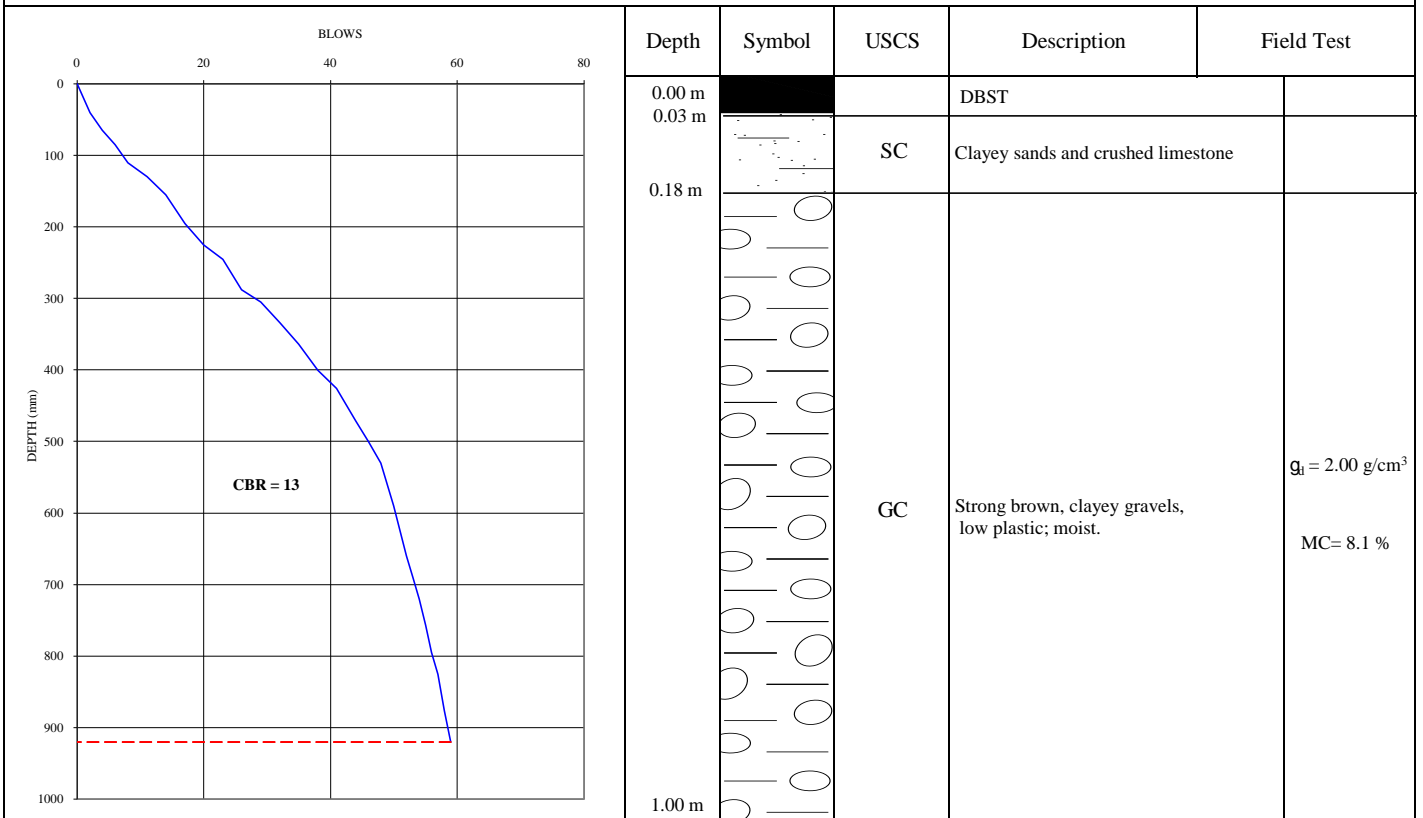
**Figure B-184 DCP Profile**



Location: Km 38+025 Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 12/08/2017



DCP Test No. 185

Test Pit No. 54

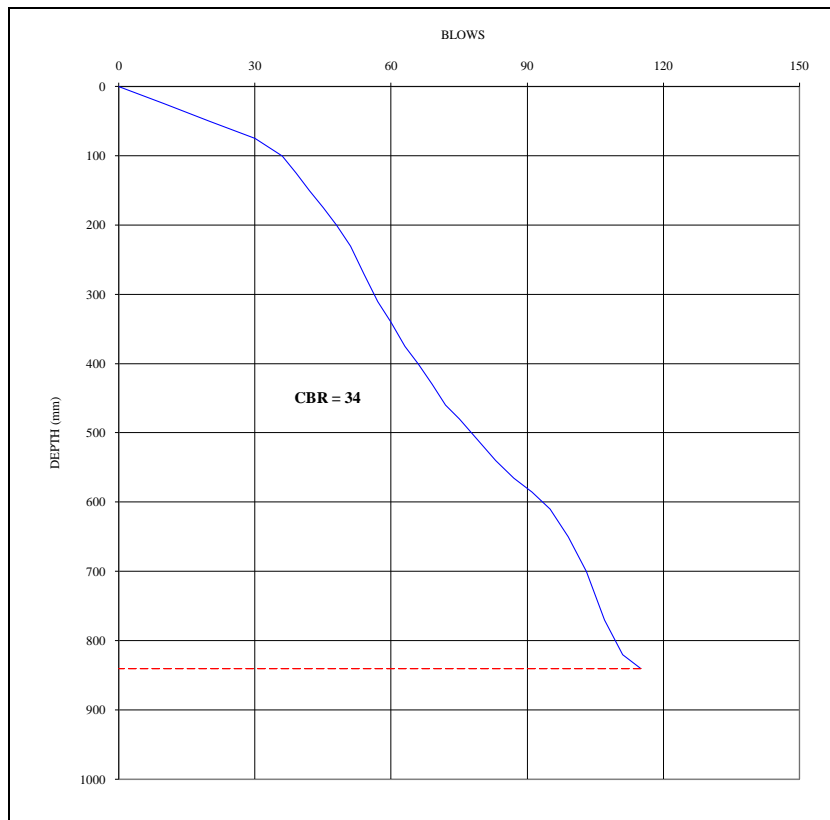
Figure B-185 DCP Profile and Test Pit Log



Location: Km 38+025, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 186**

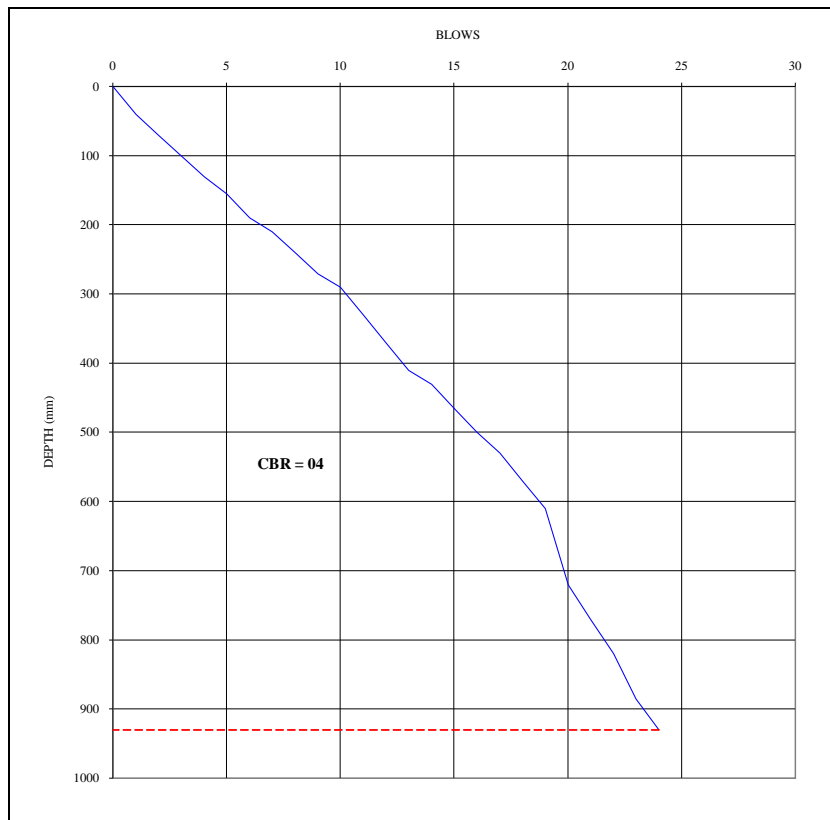
**Figure B-186 DCP Profile**



Location: Km 38+250, Rt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



DCP Test No. 187

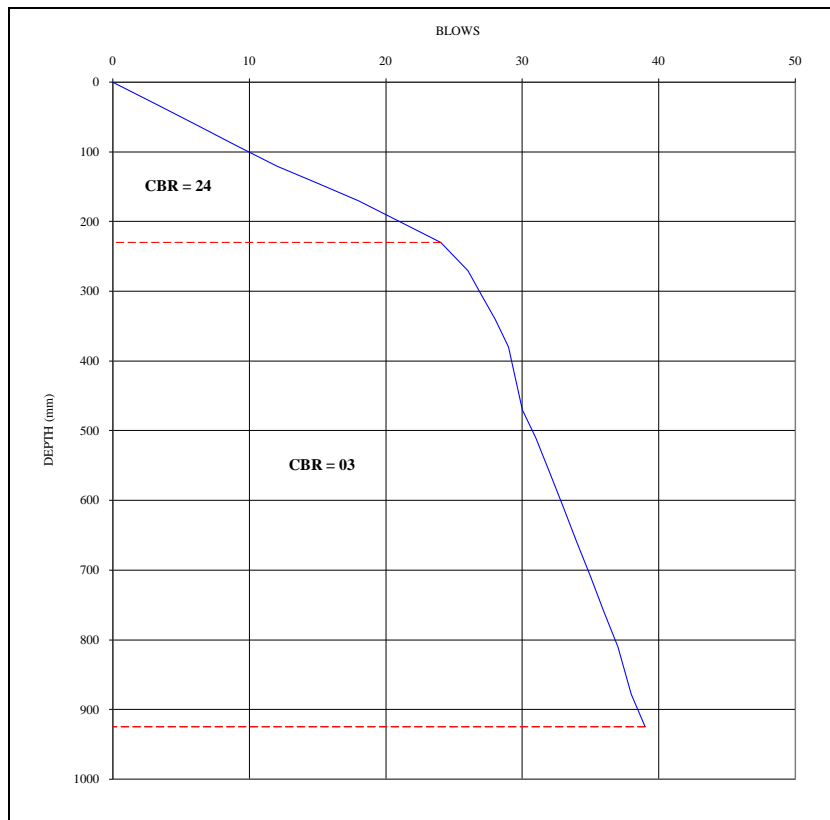
Figure B-187 DCP Profile



Location: Km 38+500, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



**DCP Test No. 188**

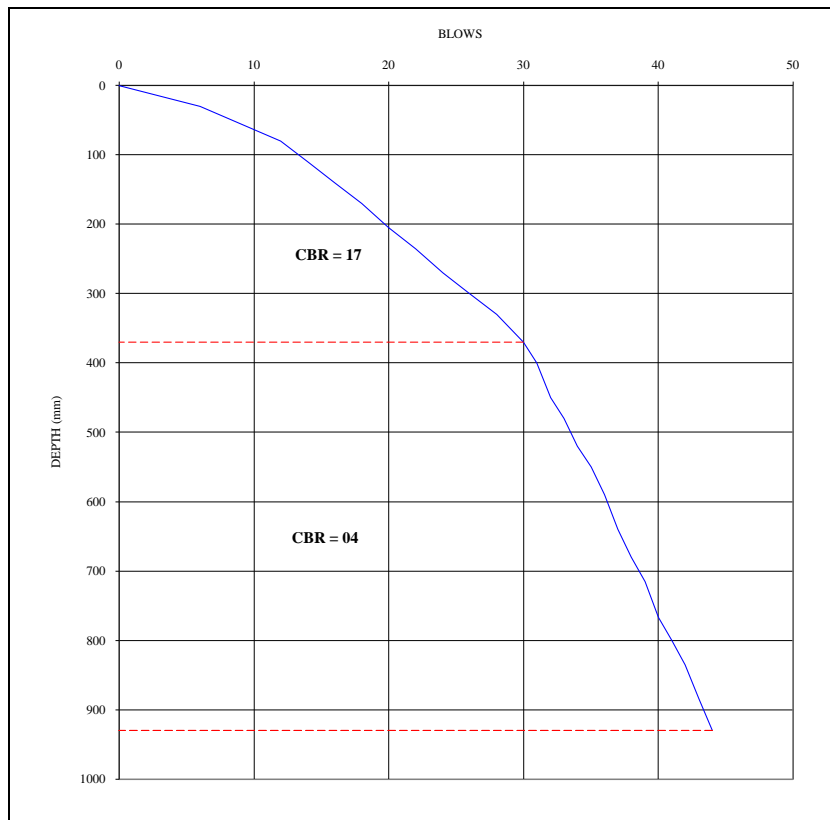
**Figure B-188 DCP Profile**



Location: Km 38+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



DCP Test No. 189

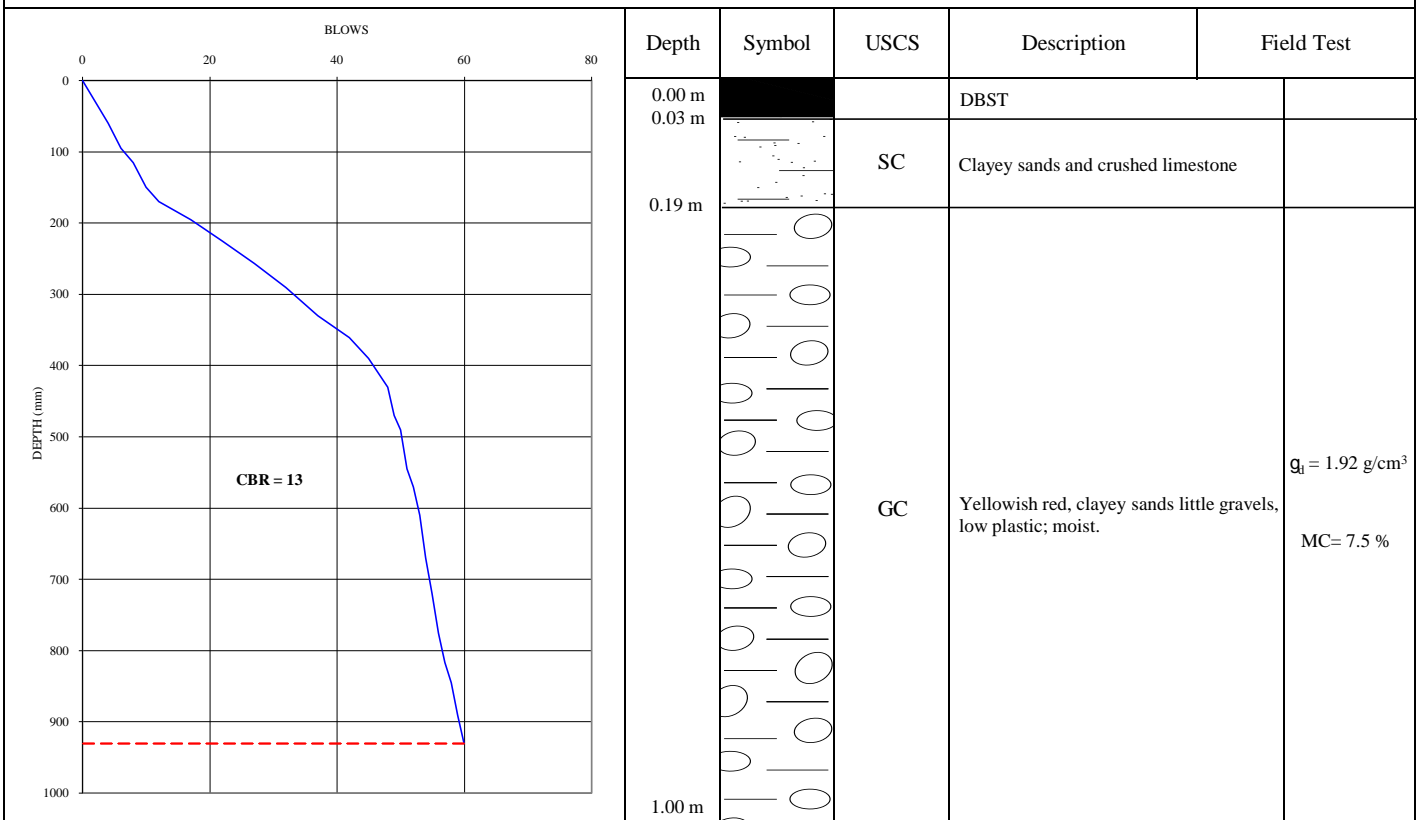
Figure B-189 DCP Profile



Location: Km 39+000 Lt/4.50 m

Depth: 0.00m - 1.00 m

Date : 13/08/2017



**DCP Test No. 190**

**Test Pit No. 55**

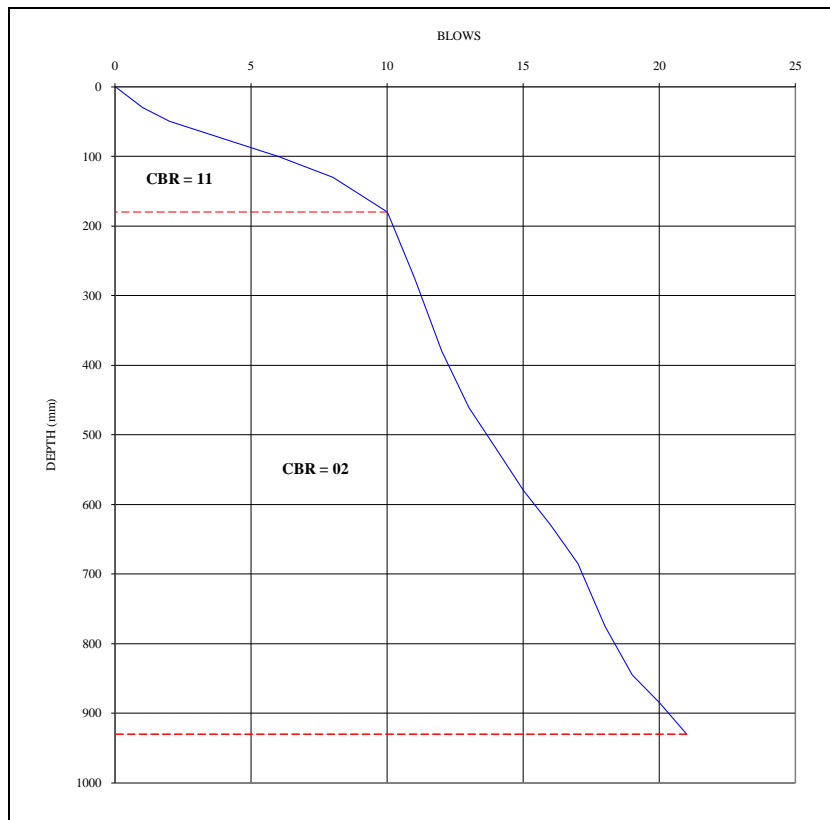
**Figure B-190 DCP Profile and Test Pit Log**



Location: Km 39+000, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 12/08/2017



DCP Test No. 191

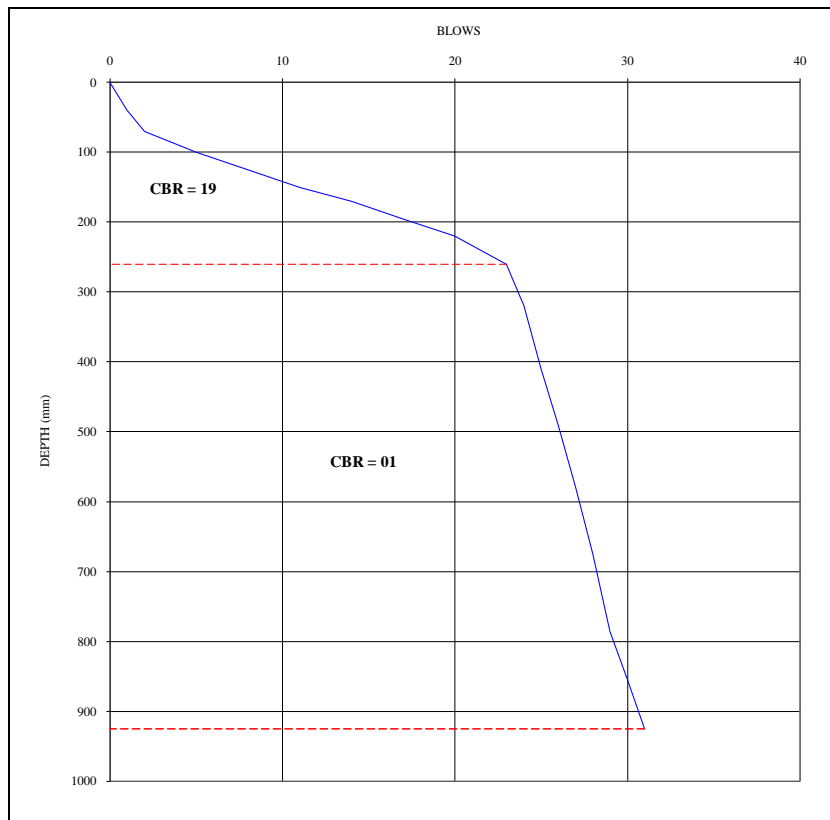
Figure B-191 DCP Profile



Location: Km 39+250, Lt/7.50 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



DCP Test No. 192

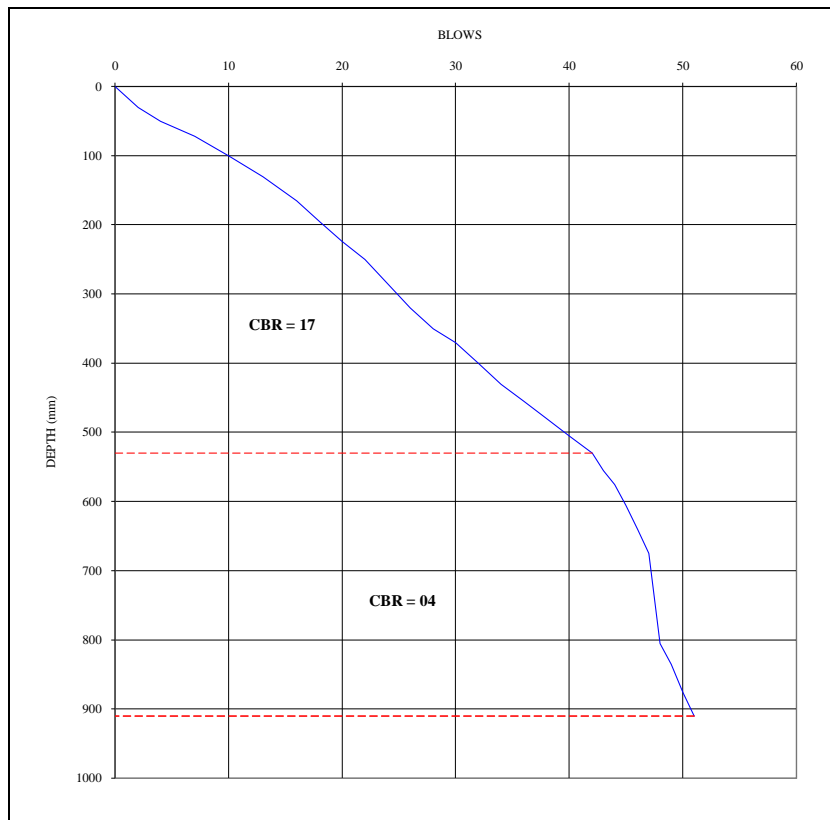
Figure B-192 DCP Profile



Location: Km 39+500, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



**DCP Test No. 193**

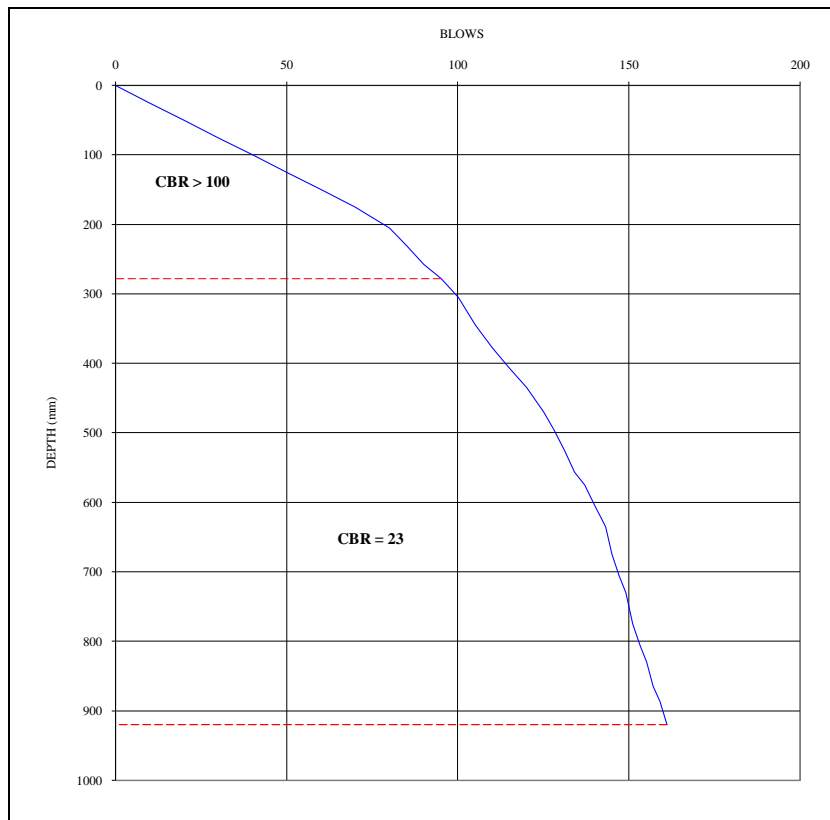
**Figure B-193 DCP Profile**



Location: Km 39+750, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



**DCP Test No. 194**

**Figure B-194 DCP Profile**



Location: Km 40+000 Rt/10.00 m

Depth: 0.00m - 1.00 m

Date : 13/08/2017

	Depth	Symbol	USCS	Description	Field Test
	<b>No Test</b>	0.00 m			
	1.00 m				

**DCP Test No. 195**

**Test Pit No. 56**

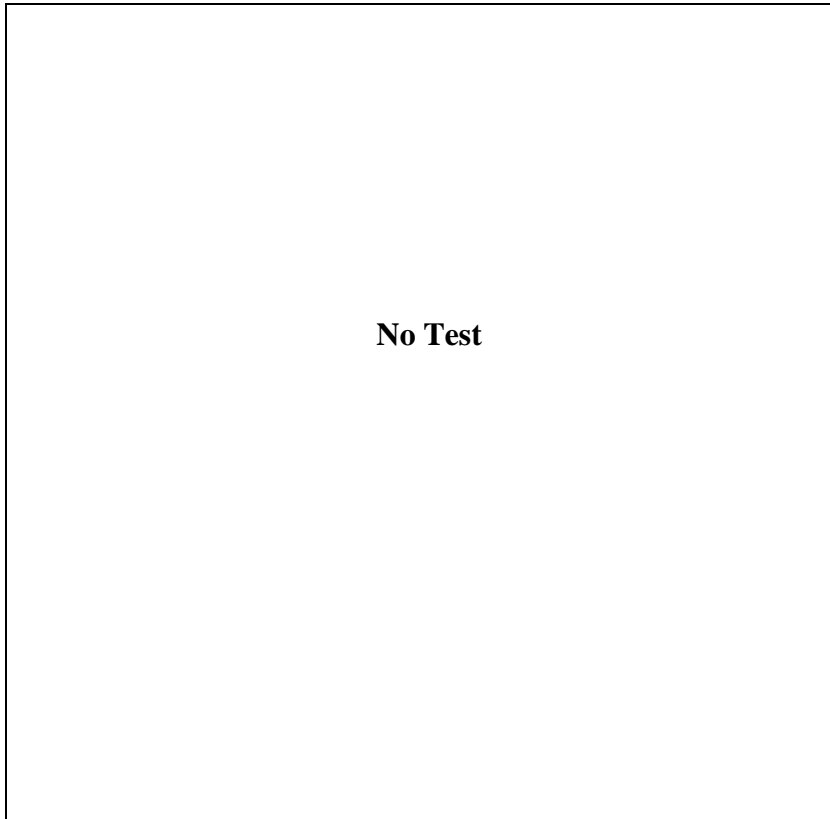
**Figure B-195 DCP Profile and Test Pit Log**



Location: Km 40+000, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



DCP Test No. 196

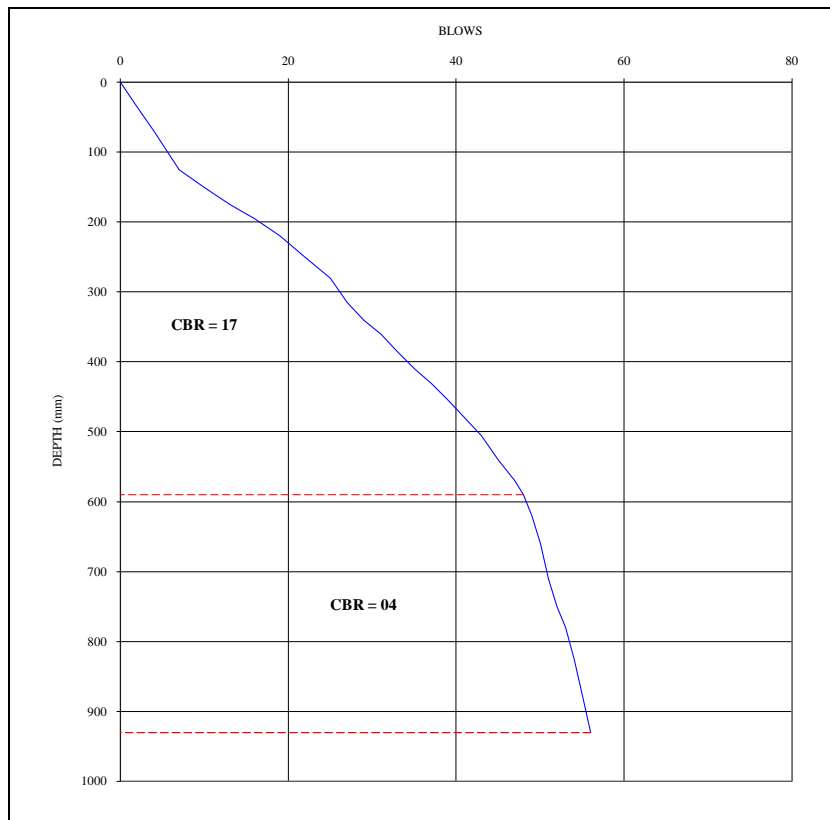
Figure B-196 DCP Profile



Location: Km 40+250, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



DCP Test No. 197

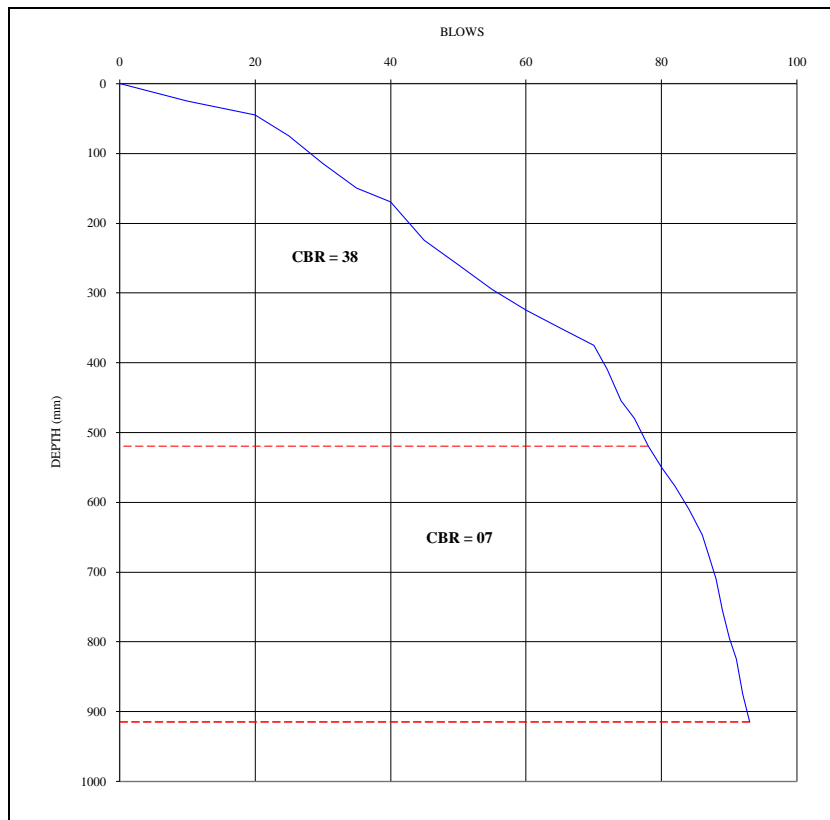
Figure B-197 DCP Profile



Location: Km 40+500, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



DCP Test No. 198

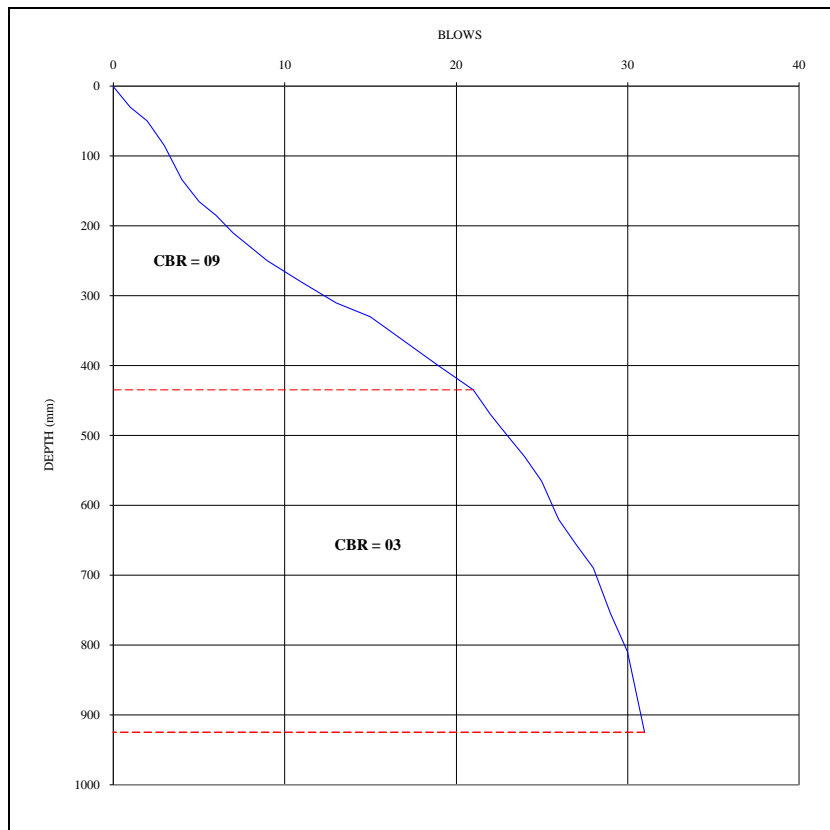
Figure B-198 DCP Profile



Location: Km 40+750, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



DCP Test No. 199

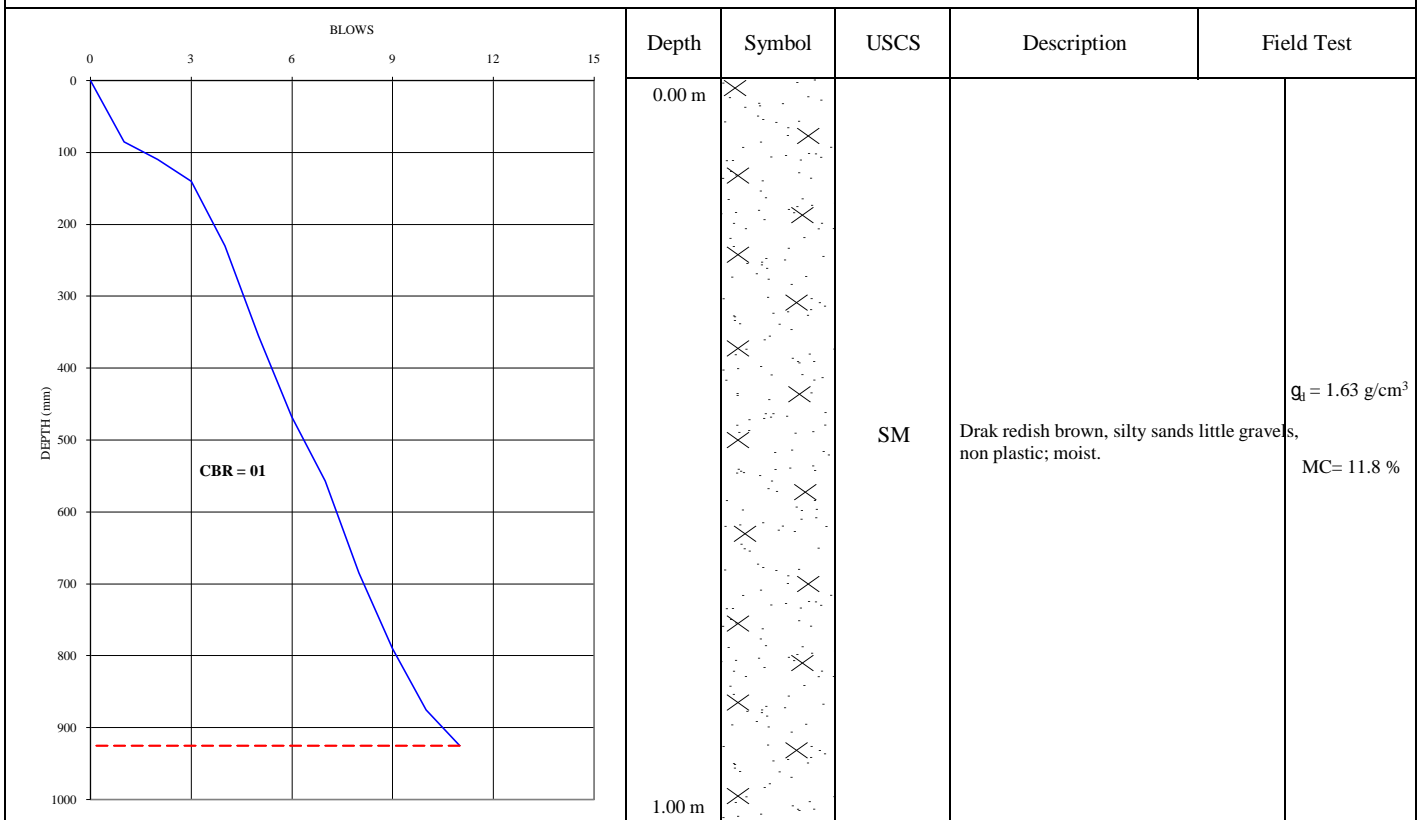
Figure B-199 DCP Profile



Location: Km 41+013 Lt/7.00 m

Depth: 0.00m - 1.00 m

Date : 14/08/2017



DCP Test No. 200

Test Pit No. 57

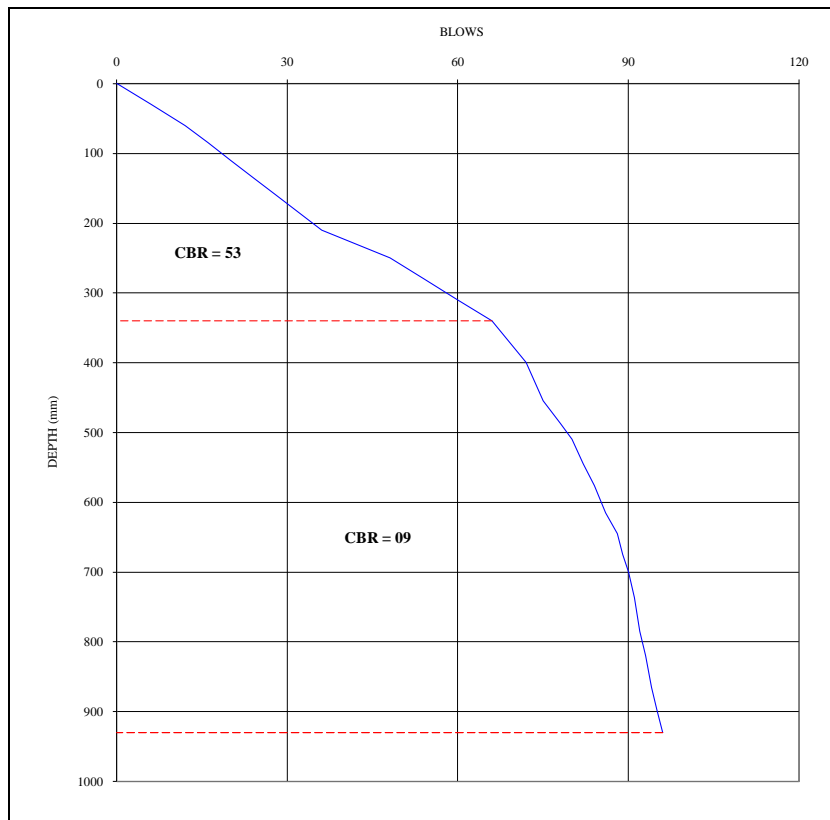
Figure B-200 DCP Profile and Test Pit Log



Location: Km 41+000, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 13/08/2017



**DCP Test No. 201**

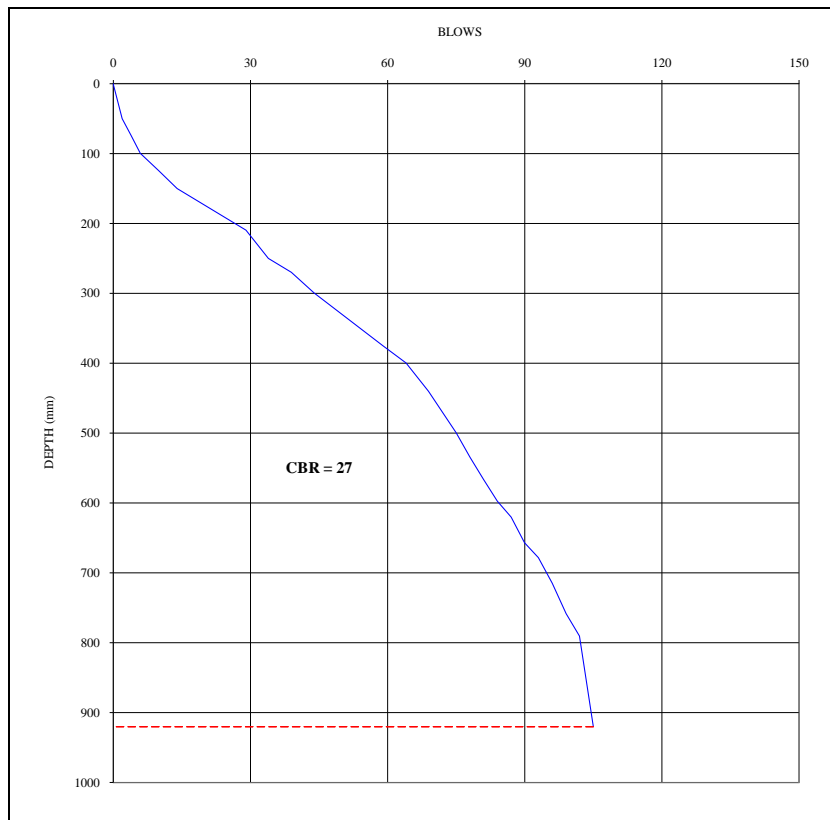
**Figure B-201DCP Profile**



Location: Km 41+250, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 202**

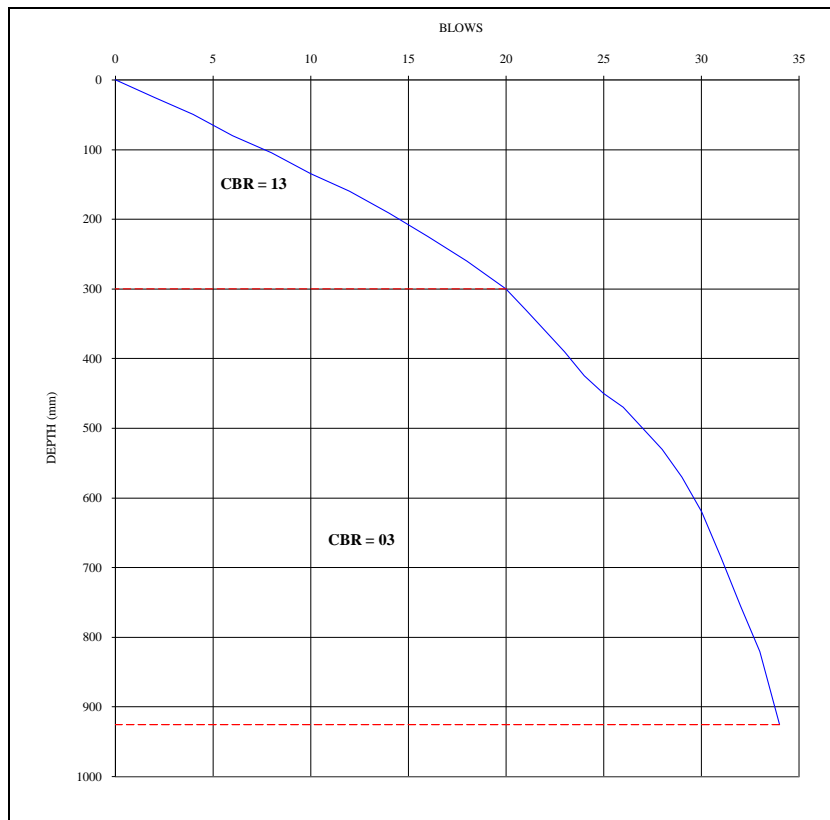
**Figure B-202 DCP Profile**



Location: Km 41+500, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 203**

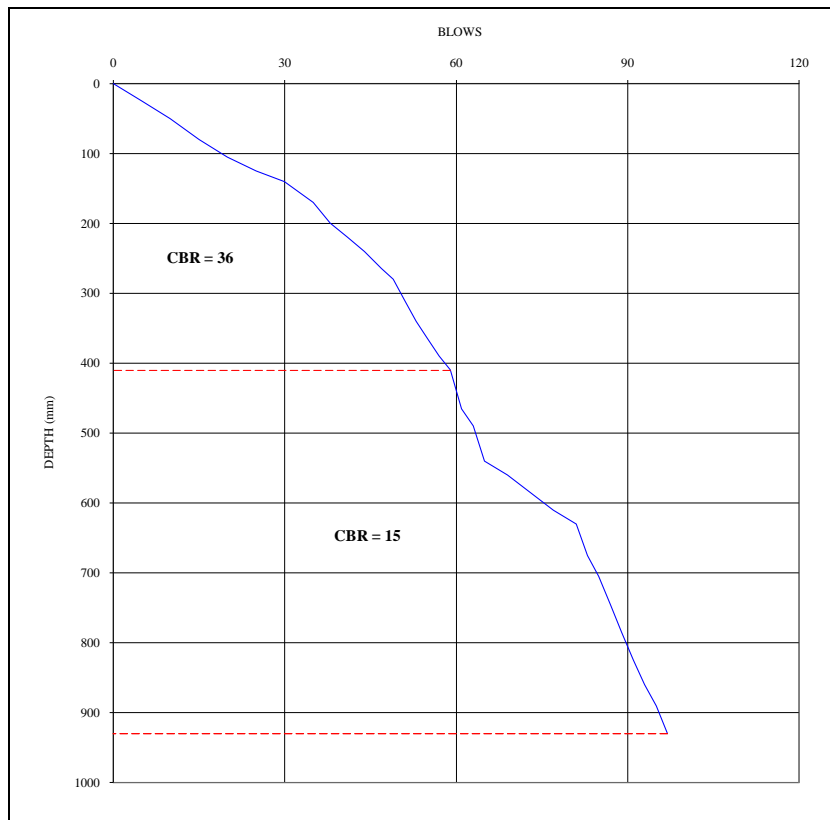
**Figure B-203 DCP Profile**



Location: Km 41+750, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 204

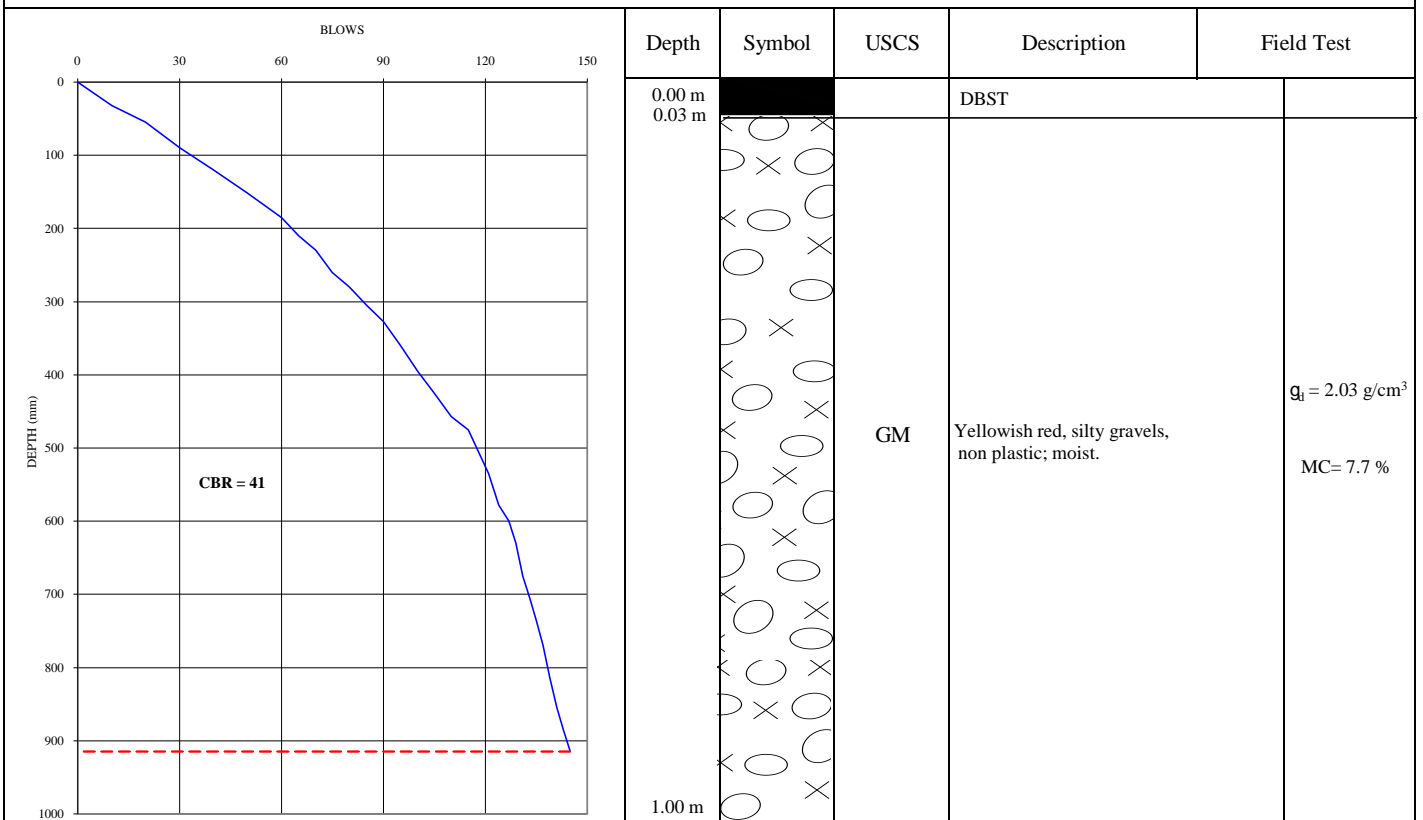
Figure B-204 DCP Profile



Location: Km 42+000 Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 14/08/2017



DCP Test No. 205

Test Pit No. 58

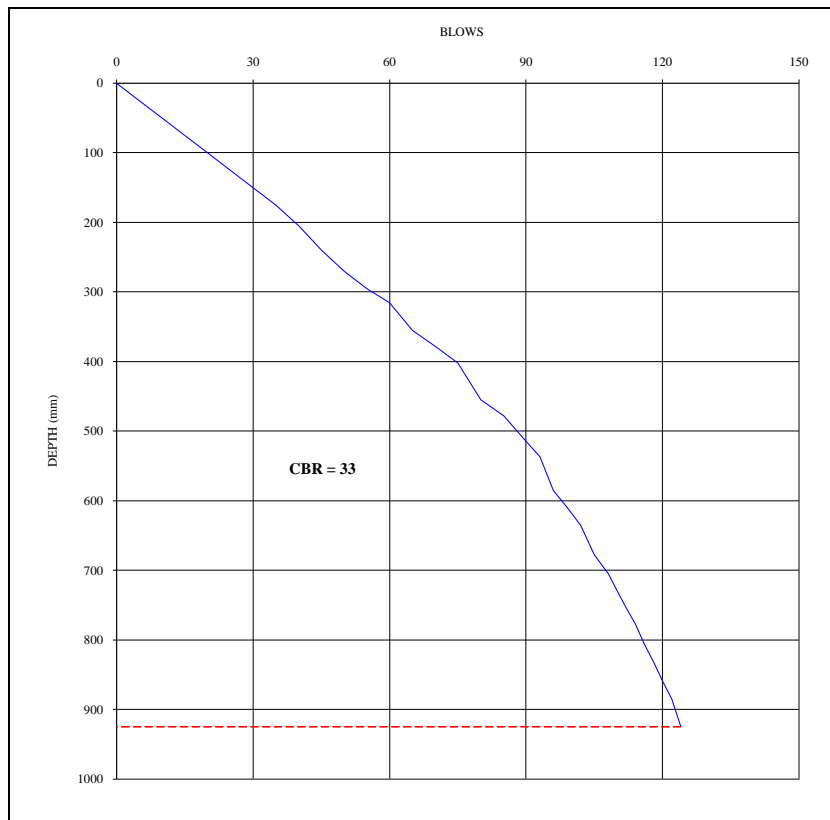
Figure B-205 DCP Profile and Test Pit Log



Location: Km 42+000, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 206

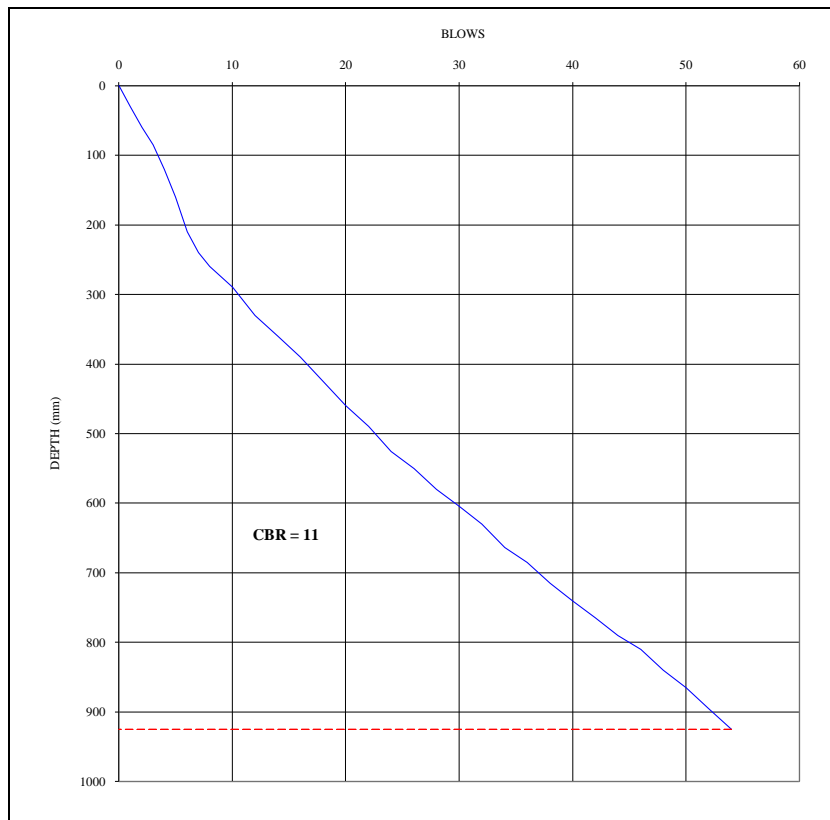
Figure B-206 DCP Profile



Location: Km 42+250, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 207**

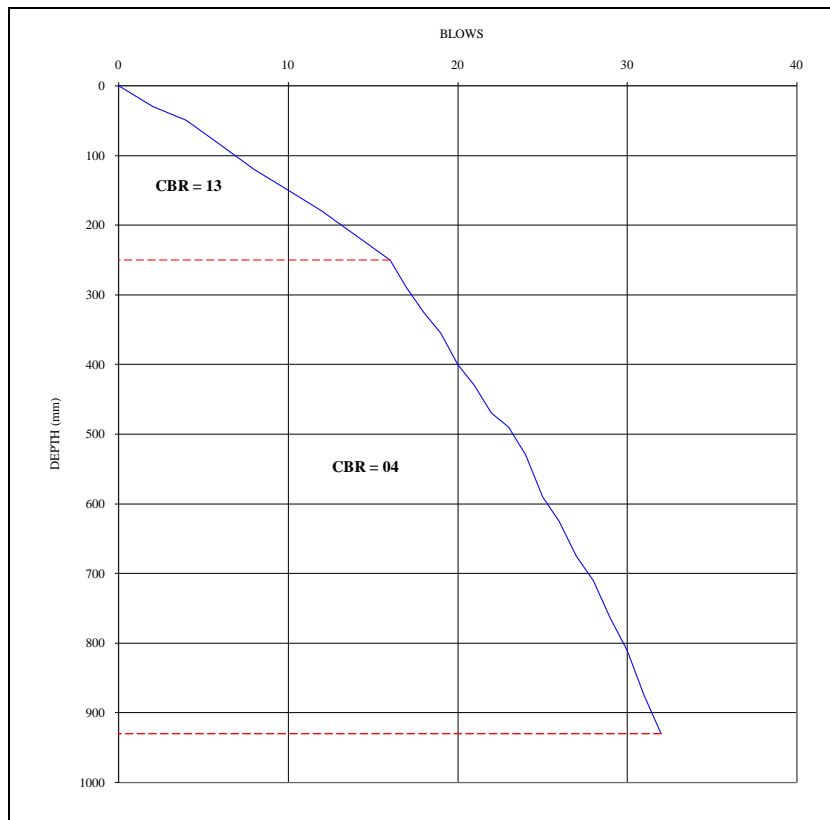
**Figure B-207 DCP Profile**



Location: Km 42+500, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 208**

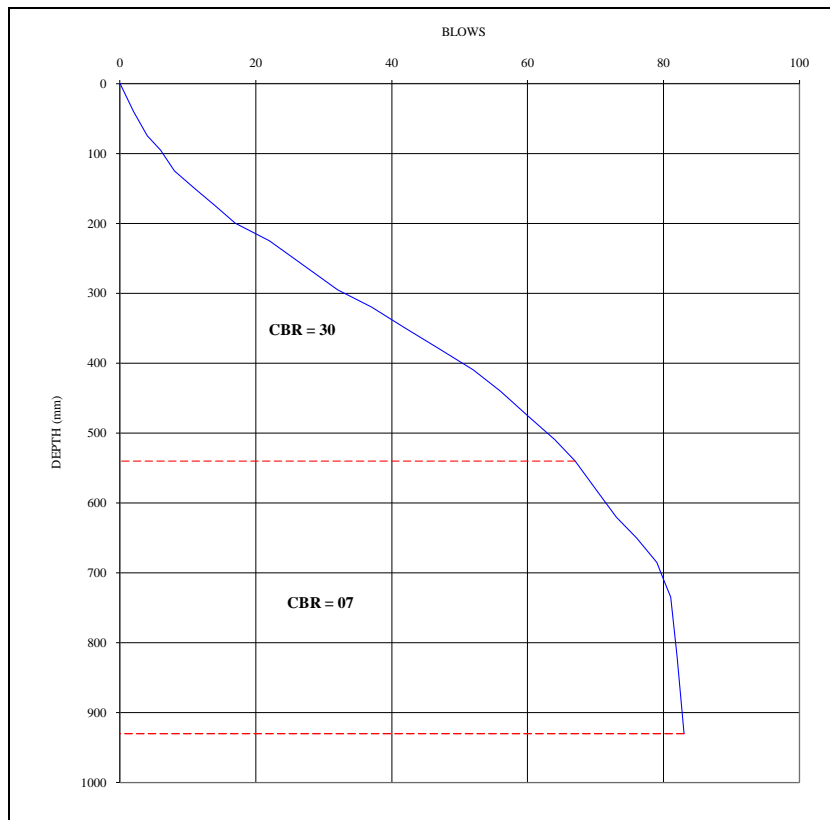
**Figure B-208 DCP Profile**



Location: Km 42+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 209

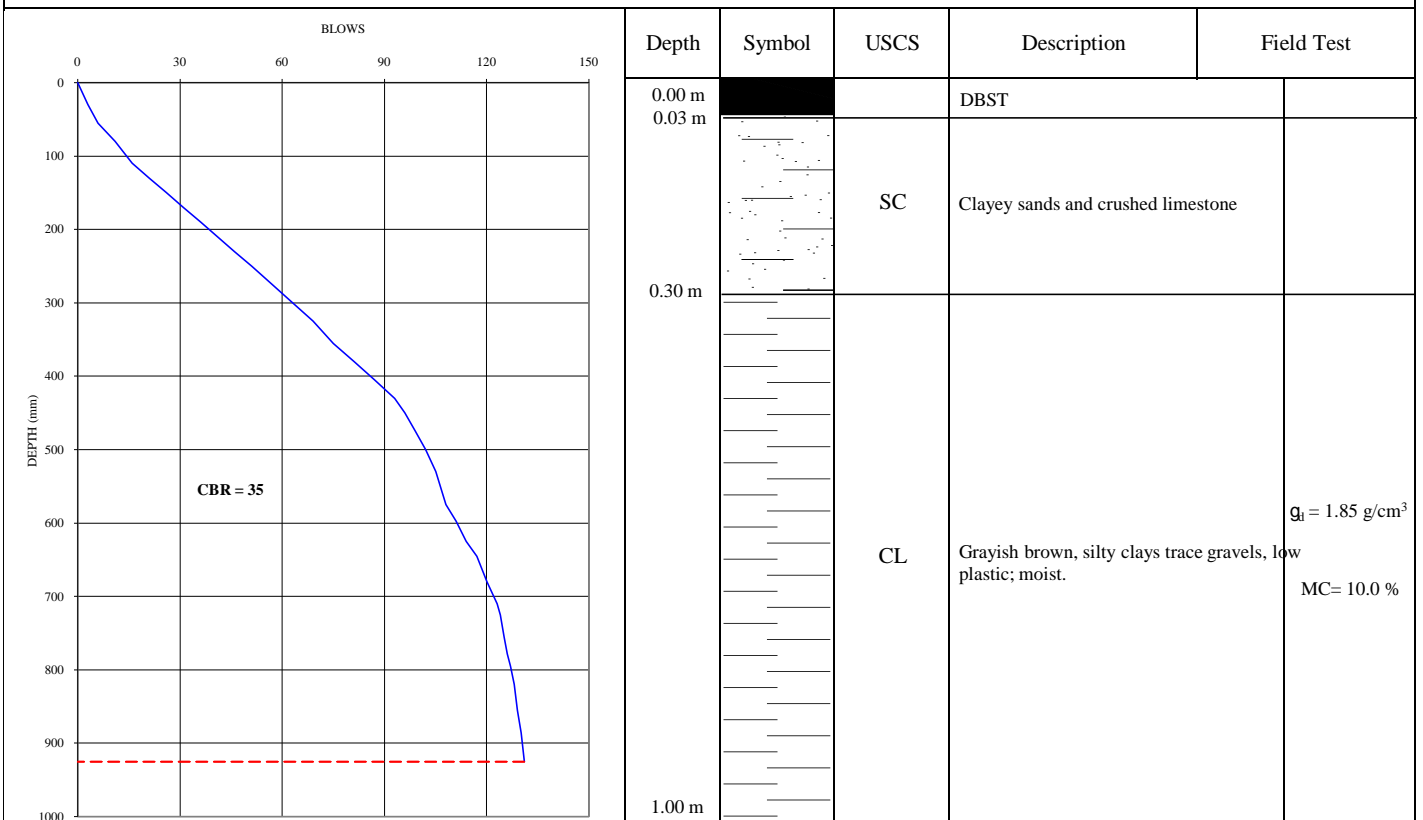
Figure B-209 DCP Profile



Location: Km 42+998 Lt/5.00 m

Depth: 0.00m - 1.00 m

Date : 14/08/2017



DCP Test No. 210

Test Pit No. 59

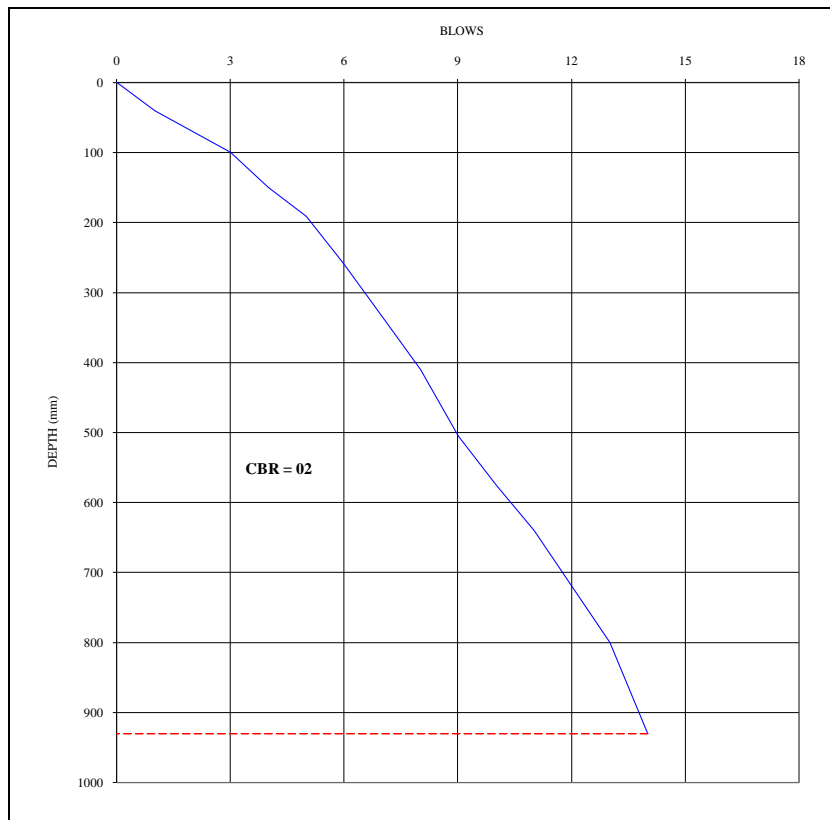
Figure B-210 DCP Profile and Test Pit Log



Location: Km 43+000, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 211**

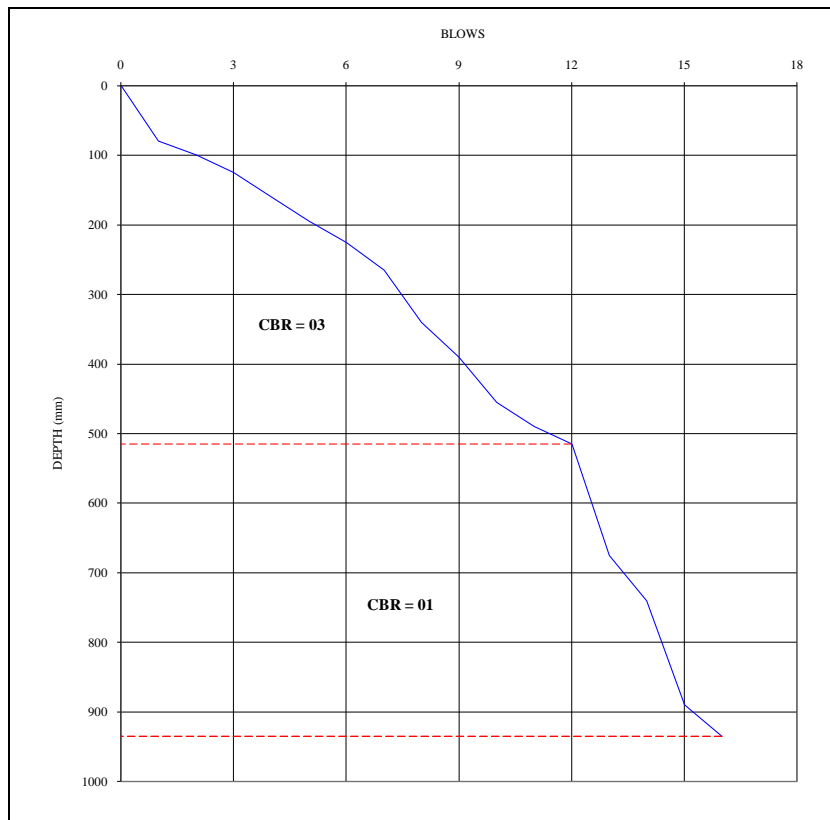
**Figure B-211 DCP Profile**



Location: Km 43+250, Lt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 212

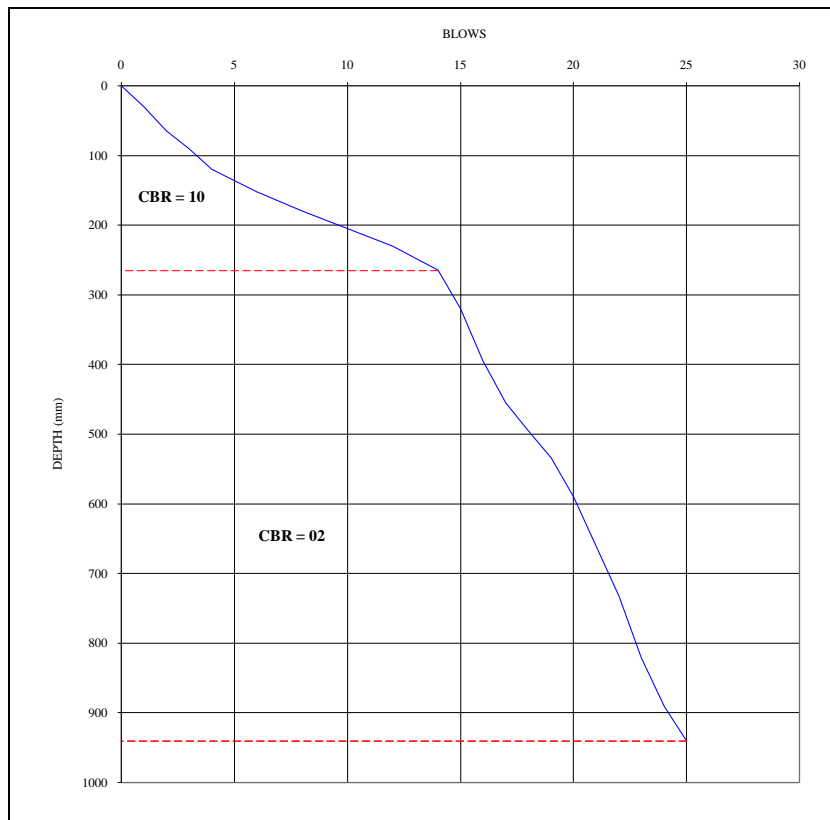
Figure B-212 DCP Profile



Location: Km 43+500, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 213

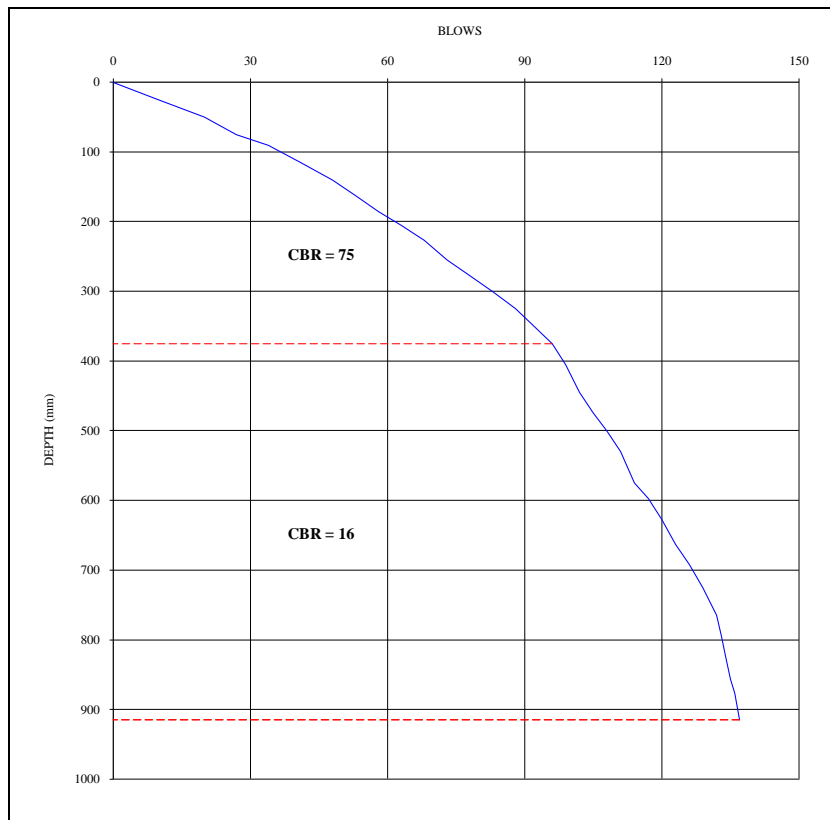
Figure B-213 DCP Profile



Location: Km 43+750, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 214**

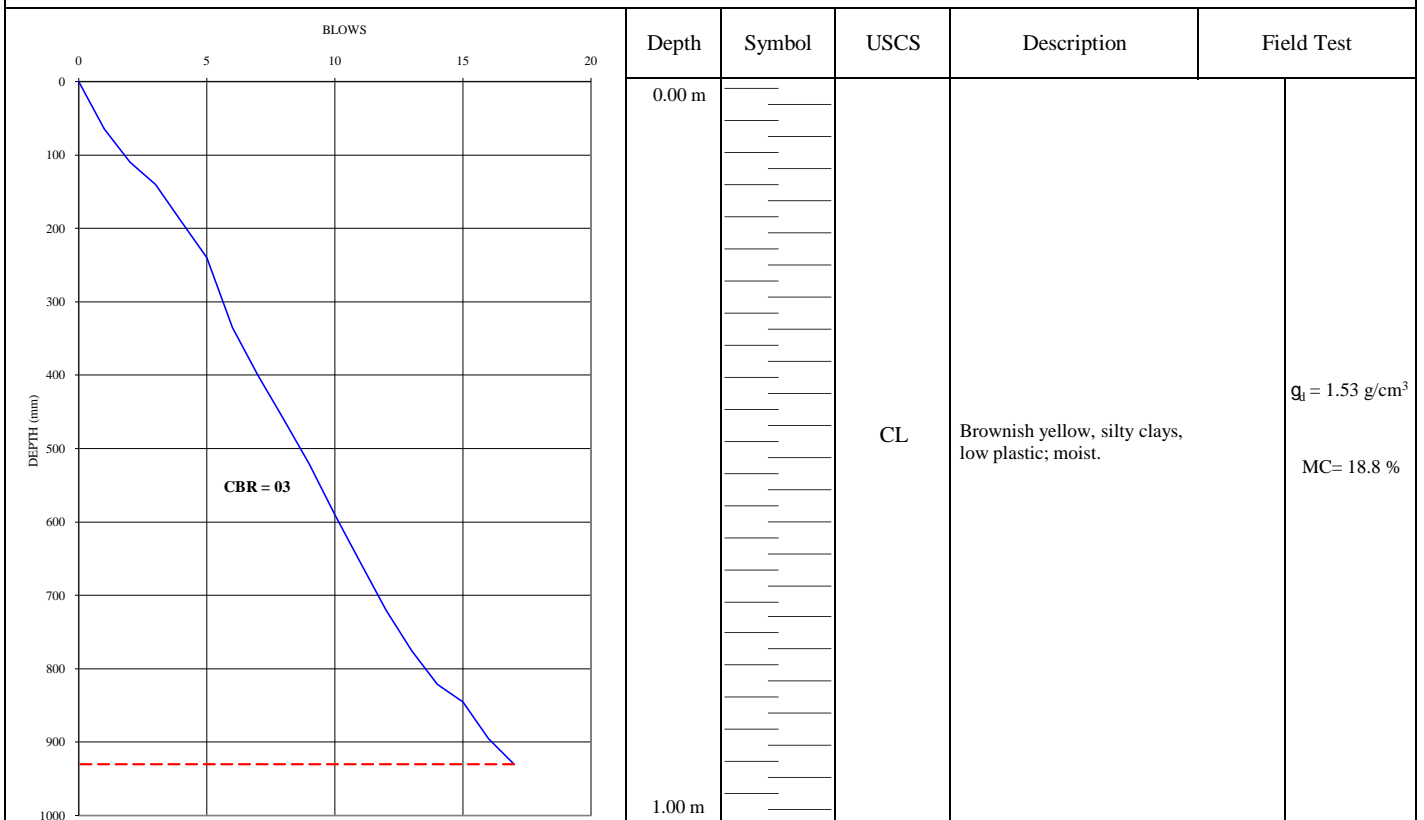
**Figure B-214 DCP Profile**



Location: Km 44+000 Rt/9.00 m

Depth: 0.00m - 1.00 m

Date : 14/08/2017



**DCP Test No. 215**

**Test Pit No. 60**

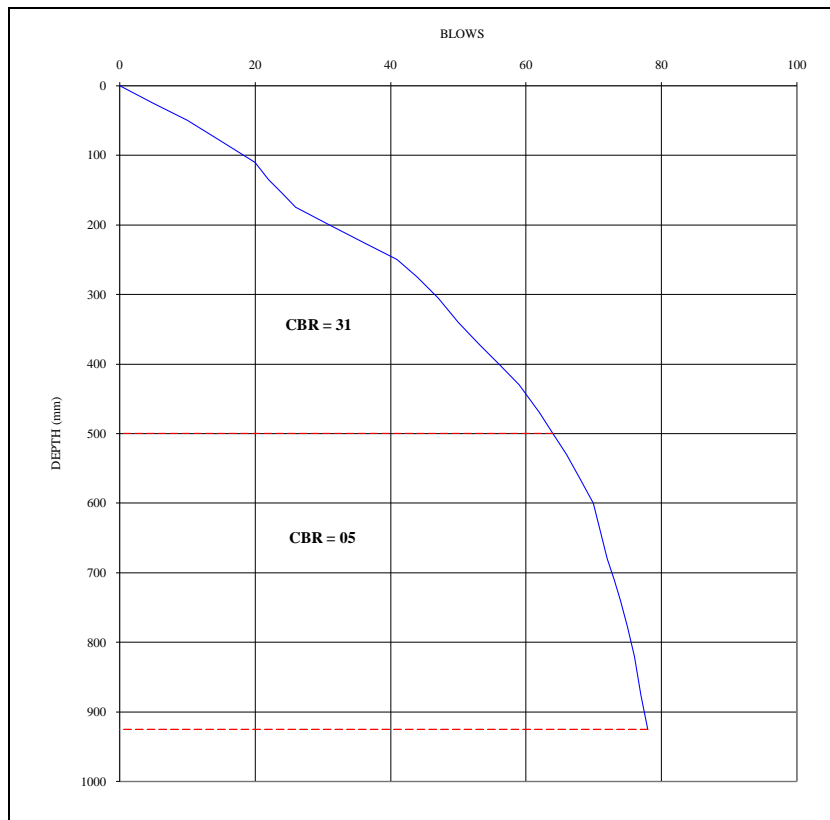
**Figure B-215 DCP Profile and Test Pit Log**



Location: Km 44+000, Lt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 216**

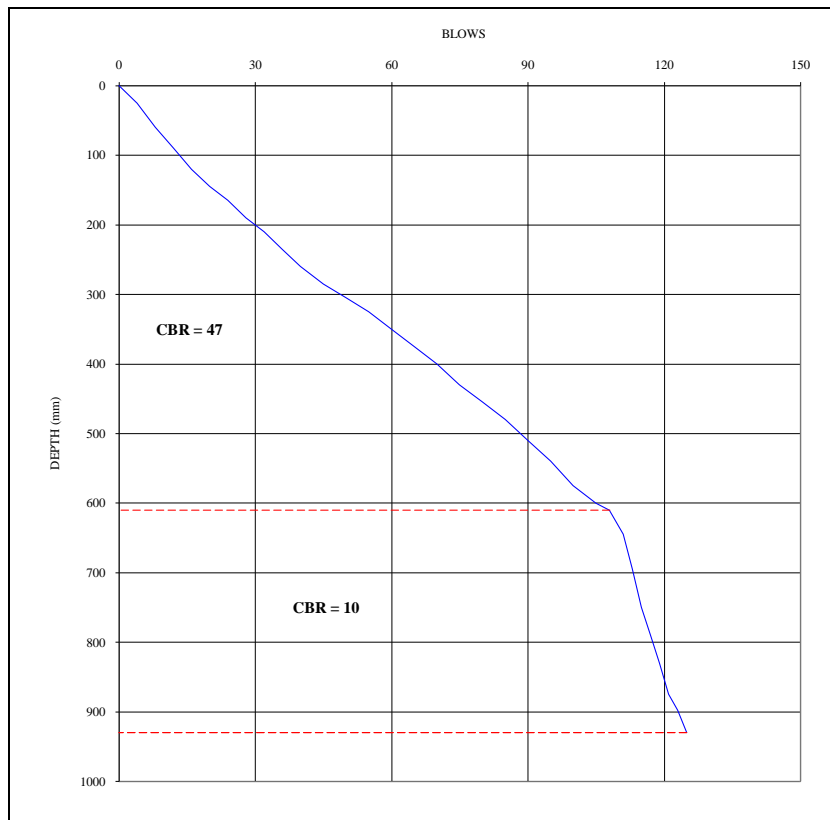
**Figure B-216 DCP Profile**



Location: 44+250, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 217

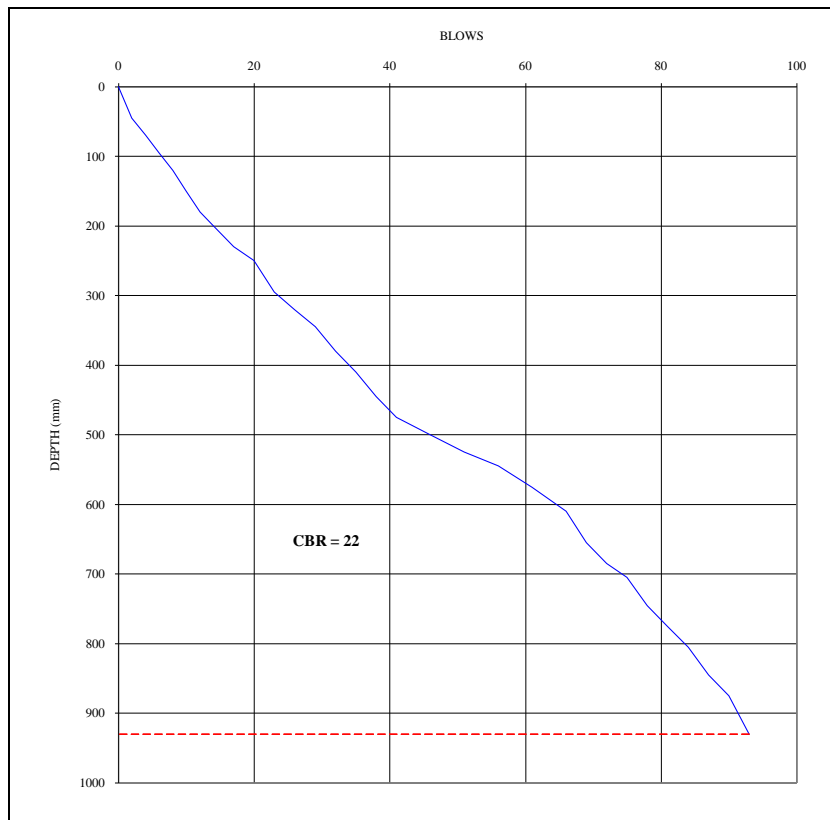
Figure B-217 DCP Profile



Location: 44+500, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 218**

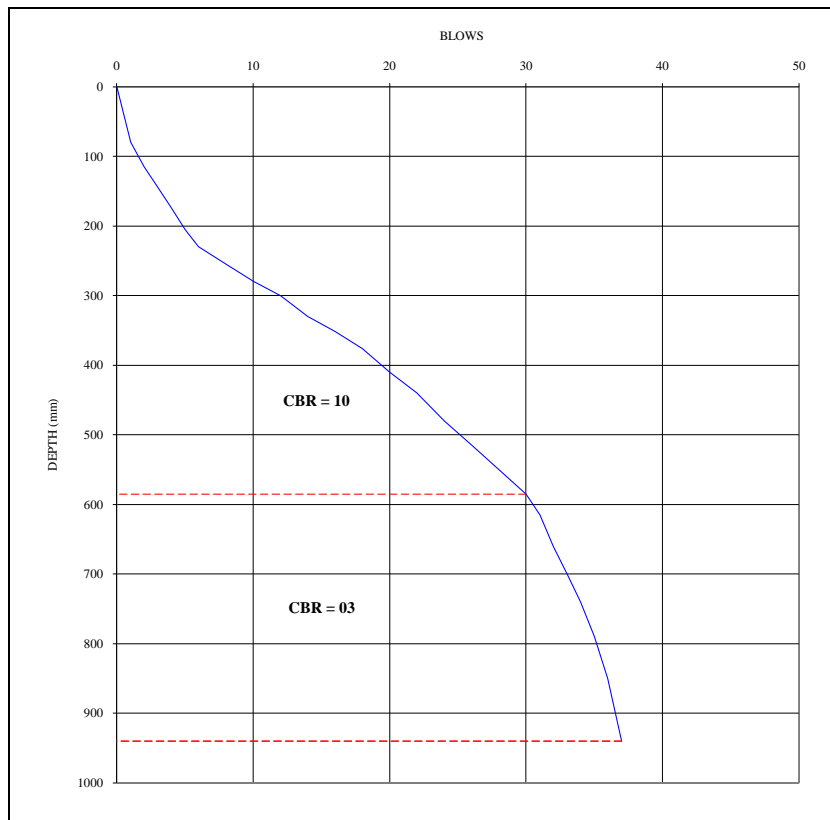
**Figure B-218 DCP Profile**



Location: 44+750, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 219**

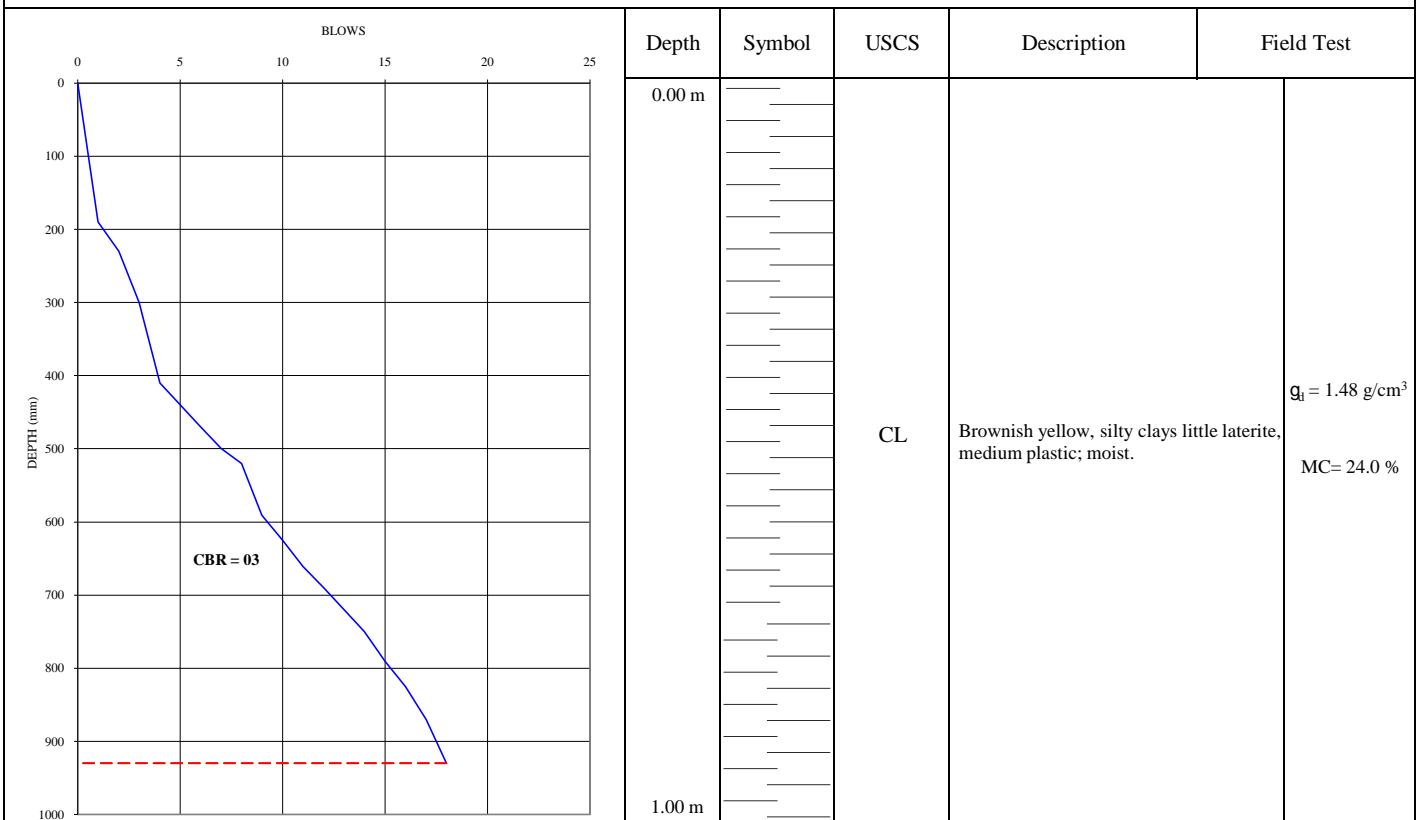
**Figure B-219 DCP Profile**



Location: Km 45+000 Rt/7.50 m

Depth: 0.00m - 1.00 m

Date : 15/08/2017



DCP Test No. 220

Test Pit No. 61

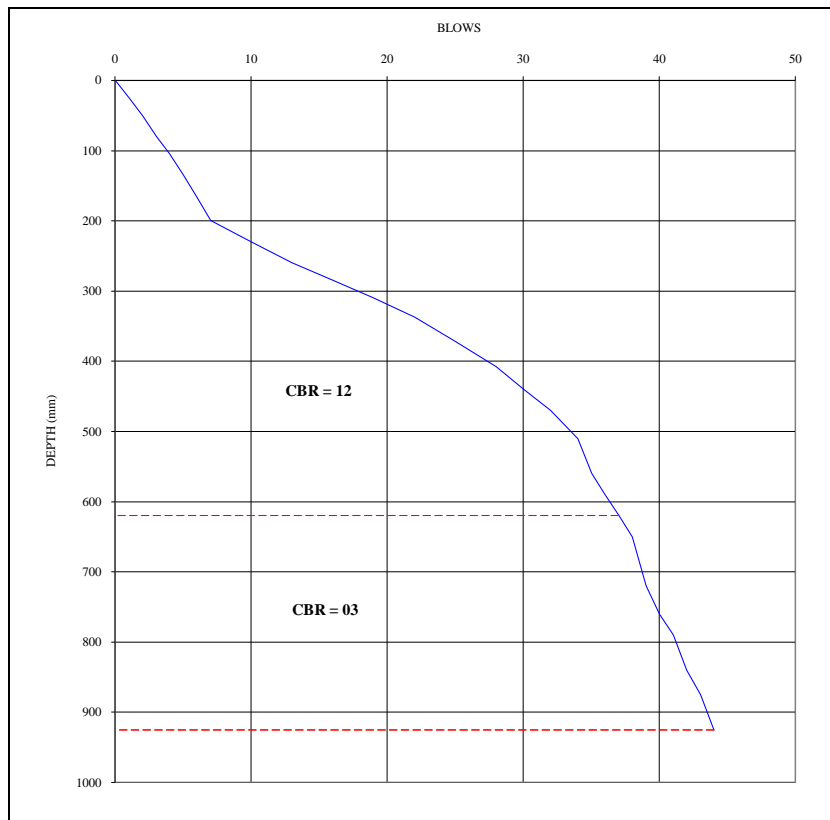
Figure B-220 DCP Profile and Test Pit Log



Location: Km 45+000, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 221**

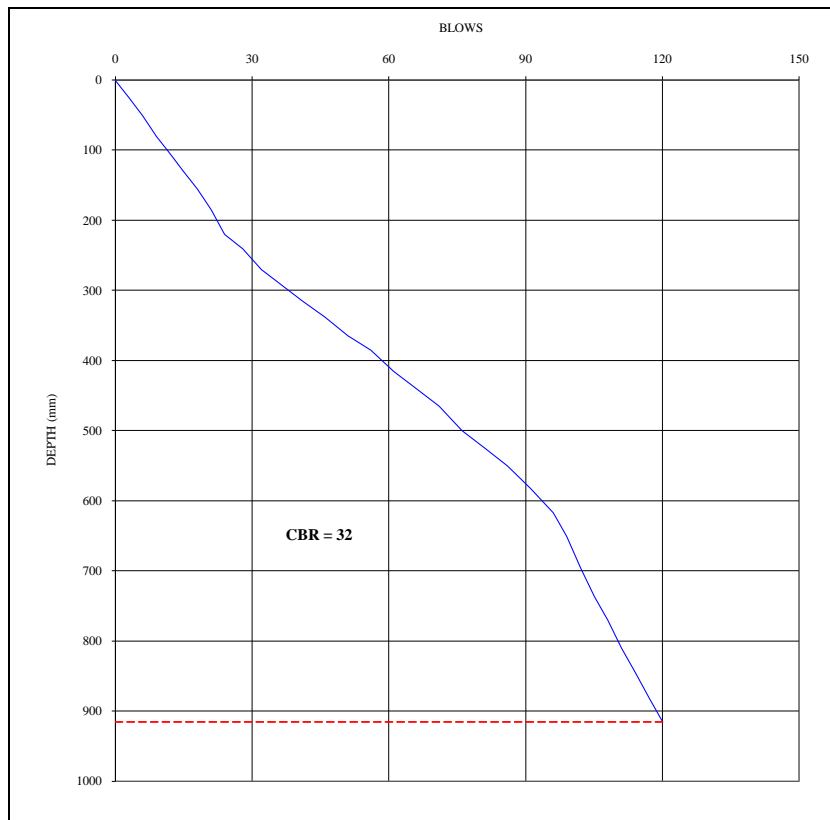
**Figure B-221 DCP Profile**



Location: Km 45+250, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 222**

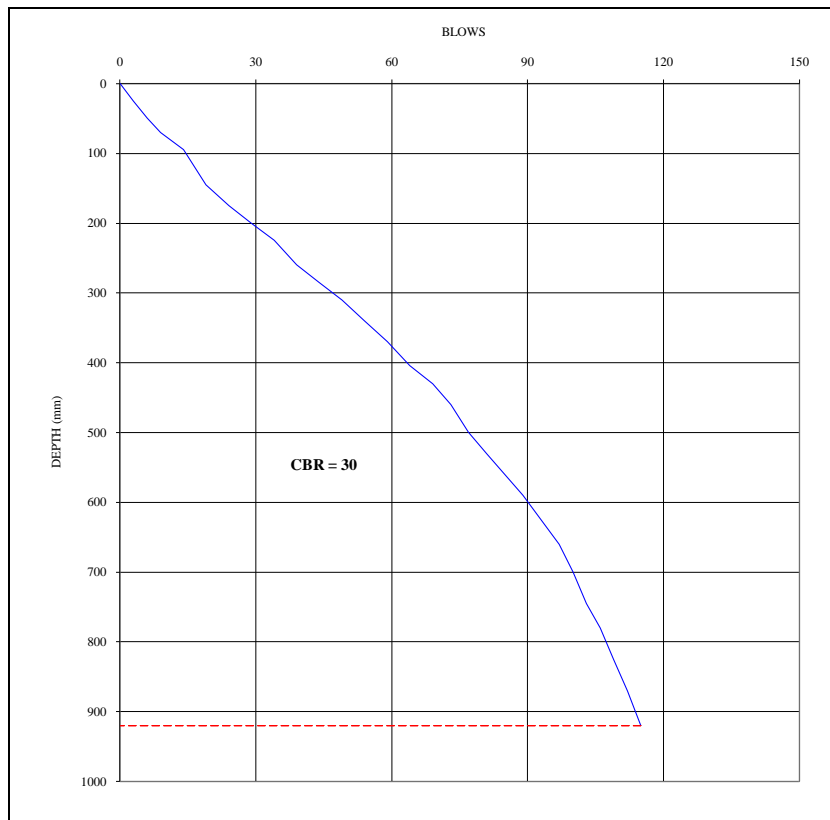
**Figure B-222 DCP Profile**



Location: Km 45+500, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 223**

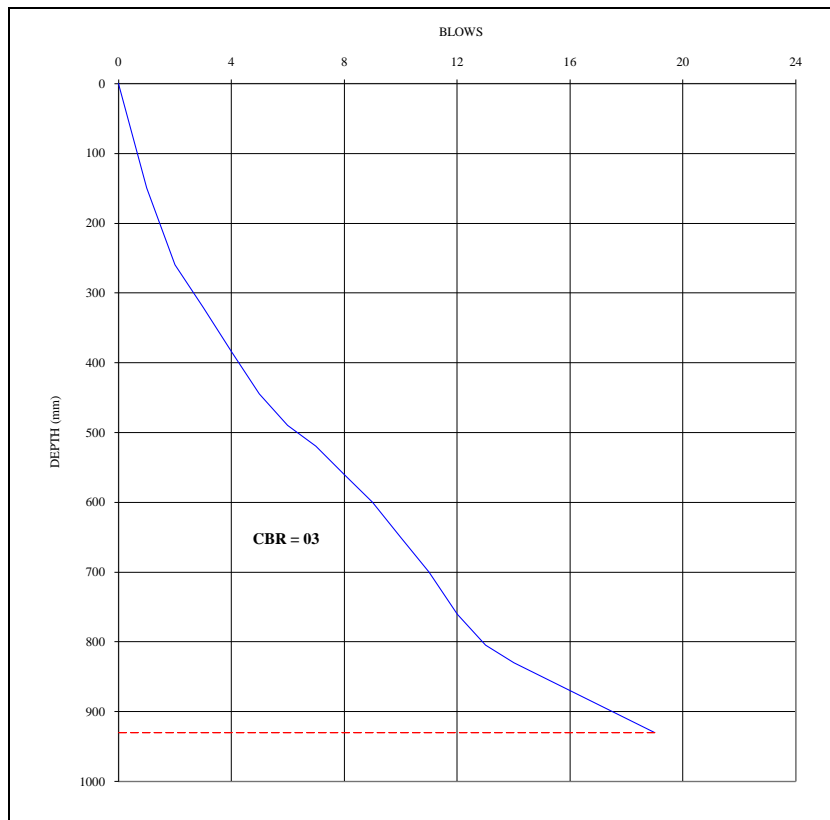
**Figure B-223 DCP Profile**



Location: Km 45+750, Lt/7.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 224**

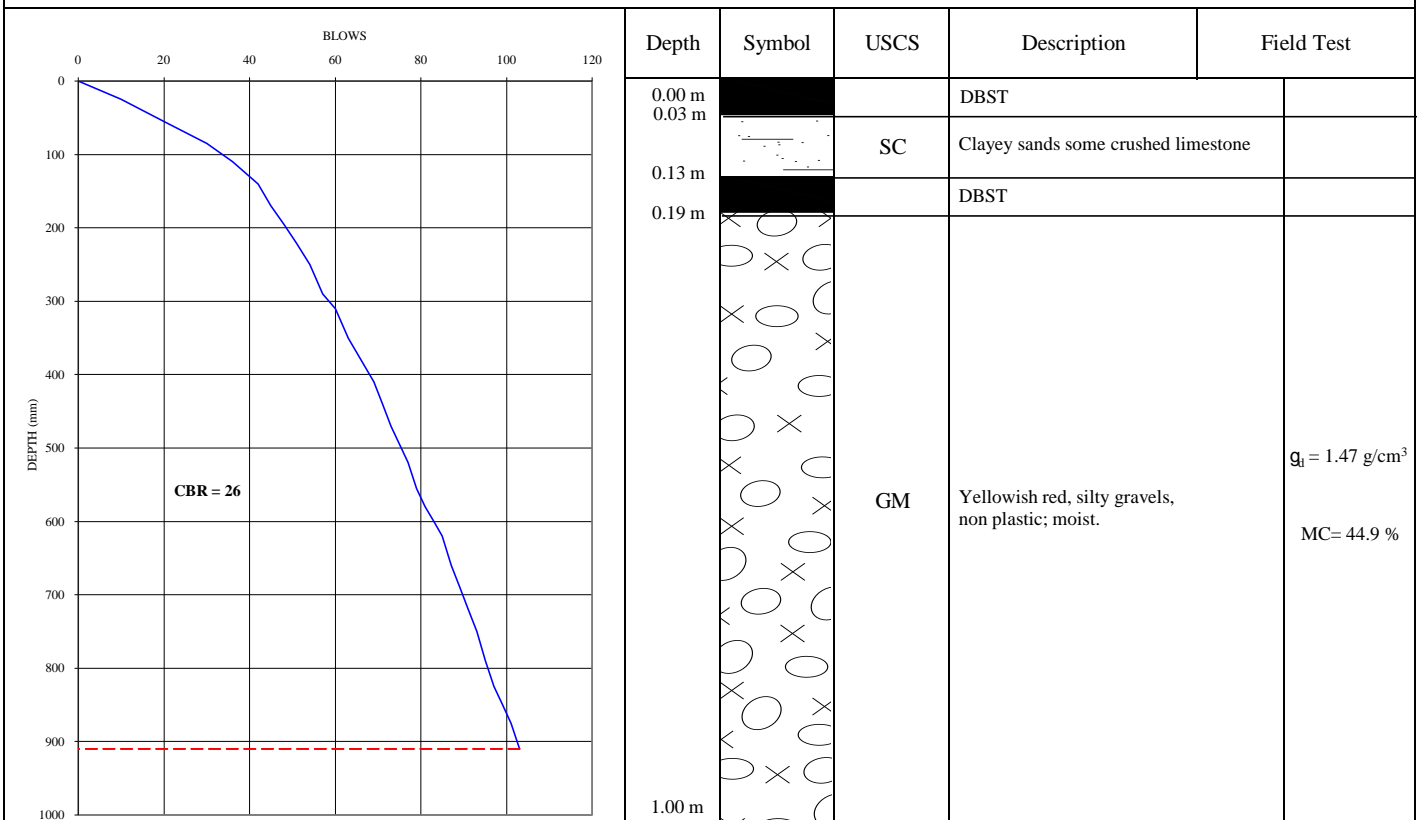
**Figure B-224 DCP Profile**



Location: Km 46+000 Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 15/08/2017



DCP Test No. 225

Test Pit No. 62

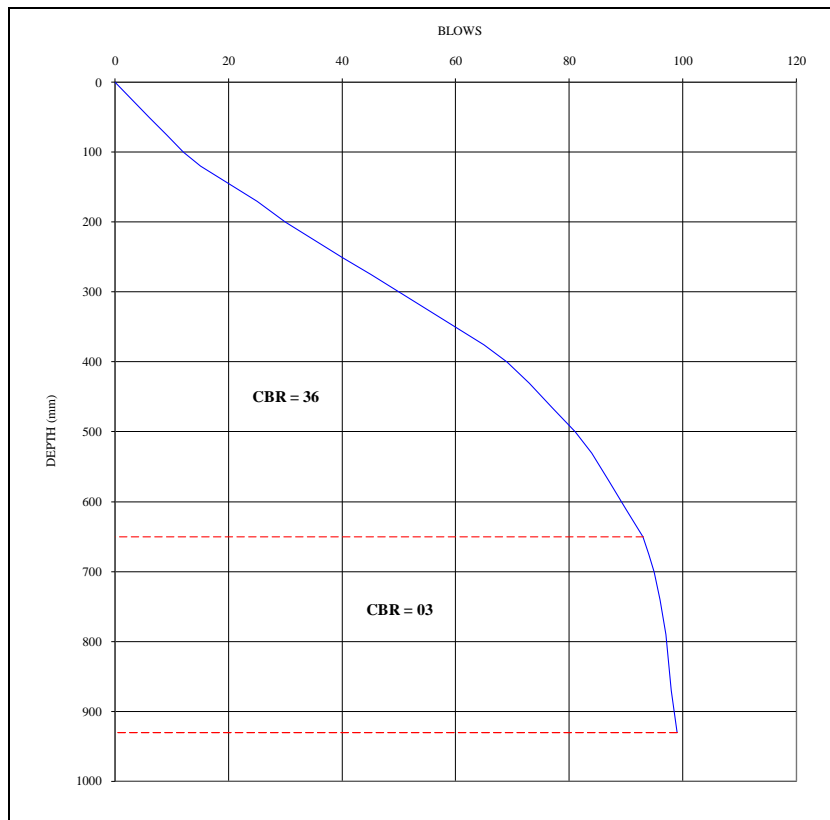
Figure B-225 DCP Profile and Test Pit Log



Location: Km 46+000, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 226**

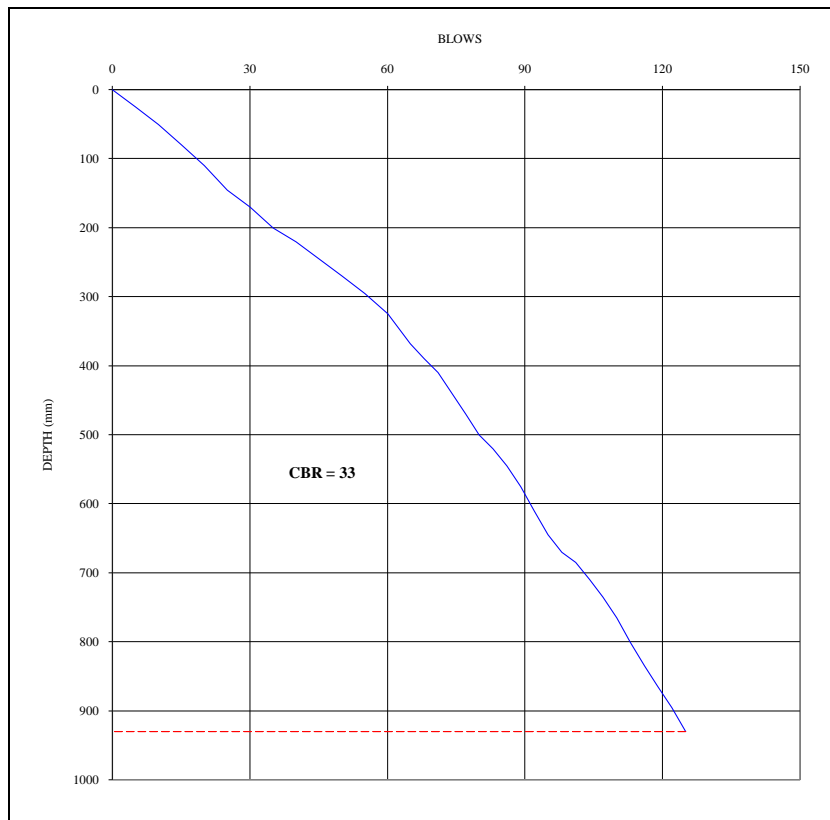
**Figure B-226 DCP Profile**



Location: Km 46+250, Rt/8.00 m □

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 227**

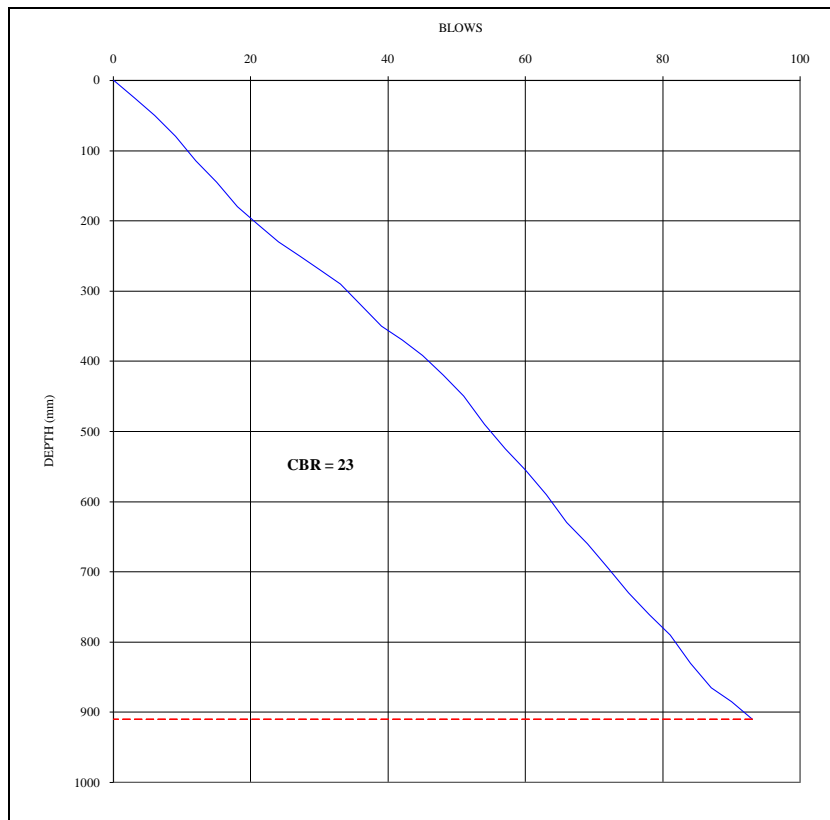
**Figure B-227 DCP Profile**



Location: Km 46+500, Lt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 228**

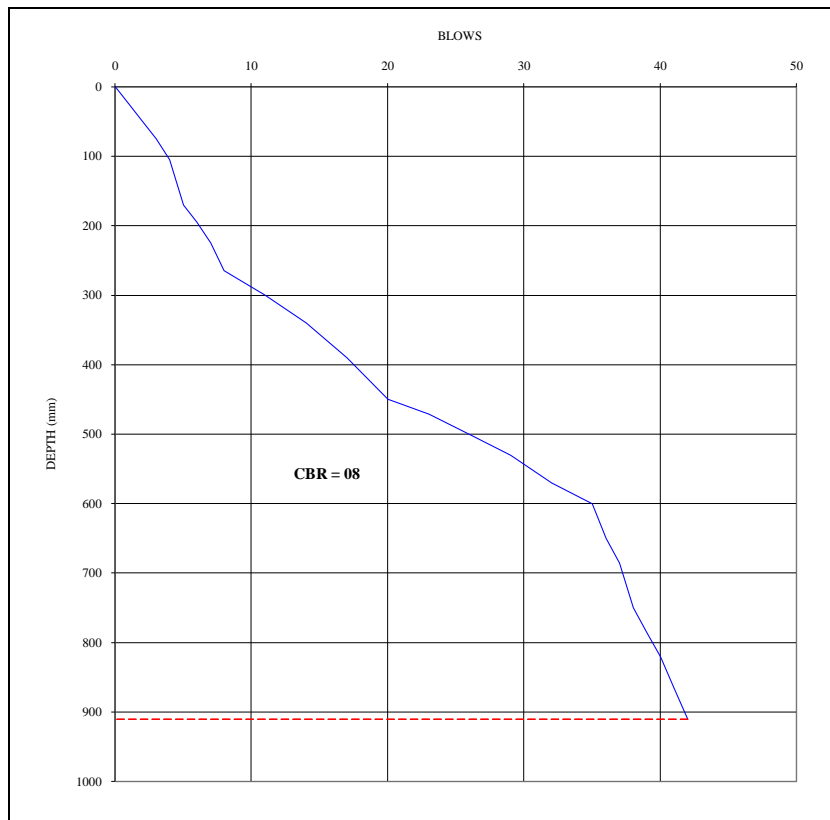
**Figure B-228 DCP Profile**



Location: Km 46+750, Rt/6.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 229

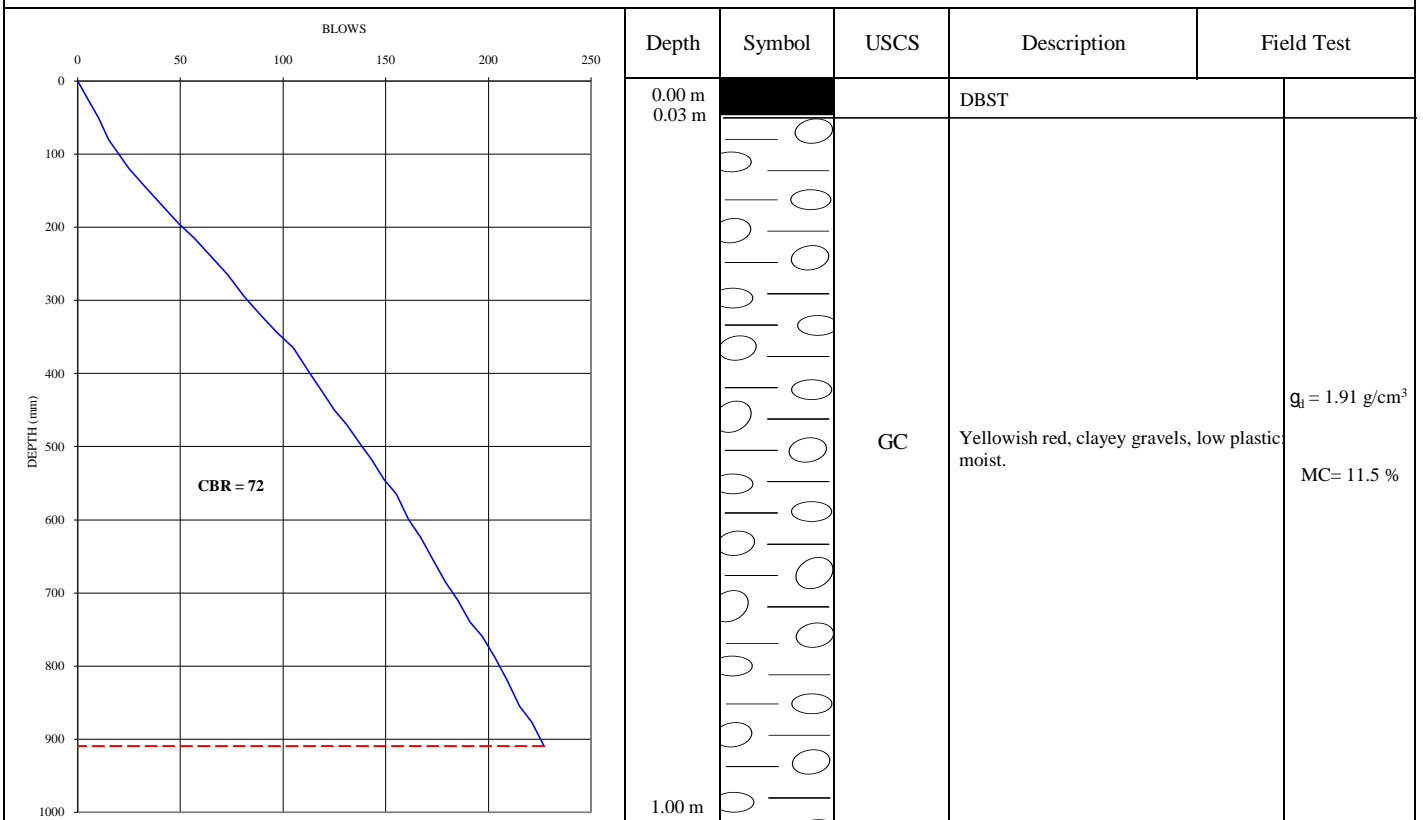
Figure B-229 DCP Profile



Location: Km 46+995 Lt/5.00 m

Depth: 0.00m - 1.00 m

Date : 15/08/2017



DCP Test No. 230

Test Pit No. 63

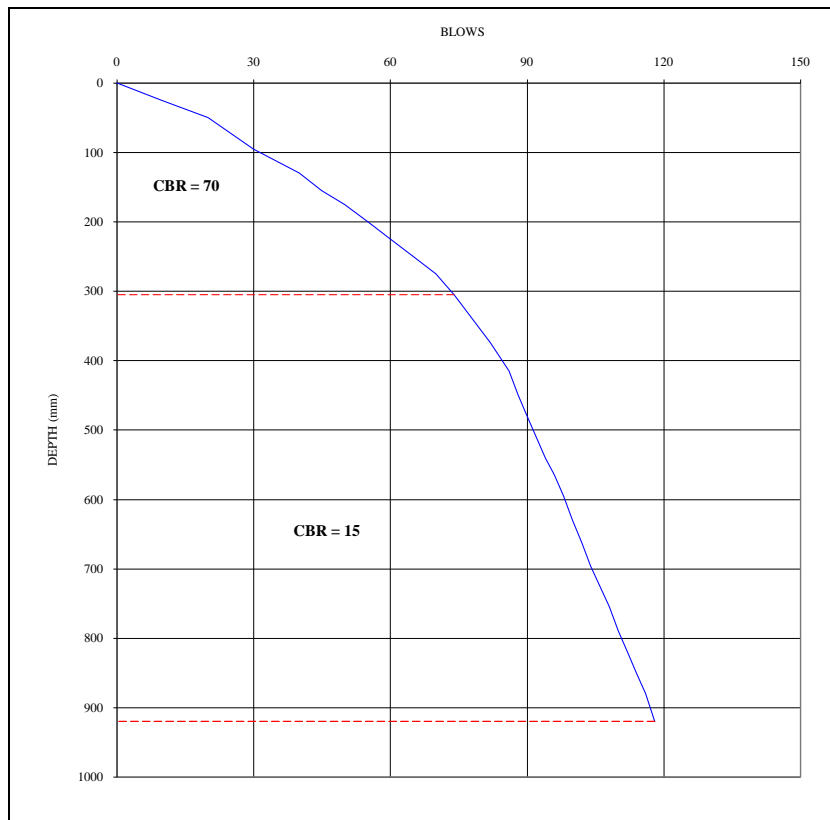
Figure B-230 DCP Profile and Test Pit Log



Location: Km 47+000, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 231

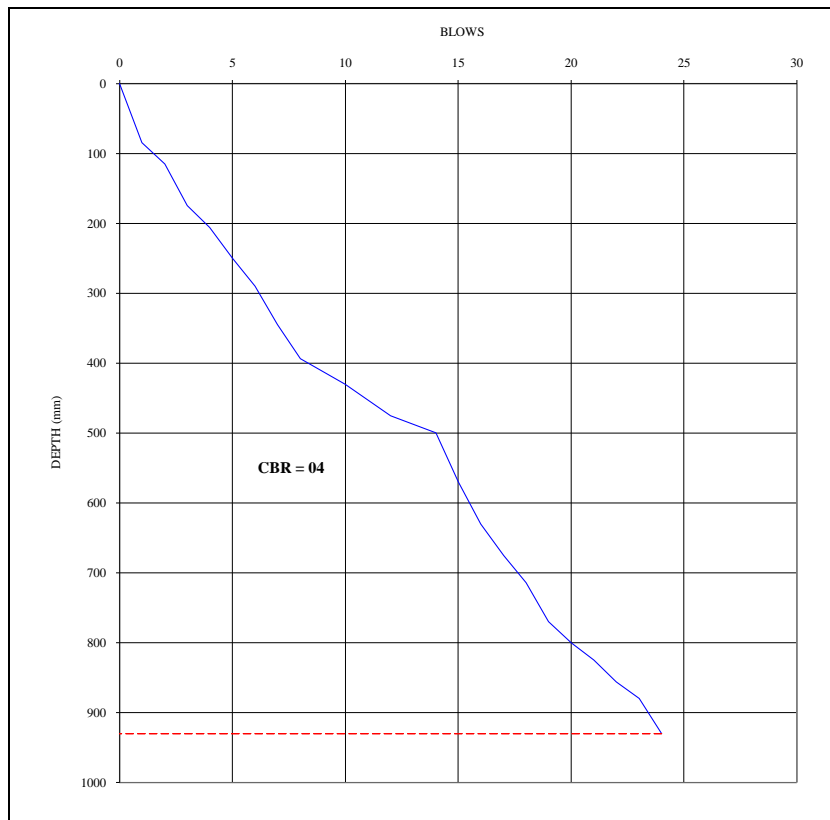
Figure B-231 DCP Profile



Location: Km 47+250, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



DCP Test No. 232

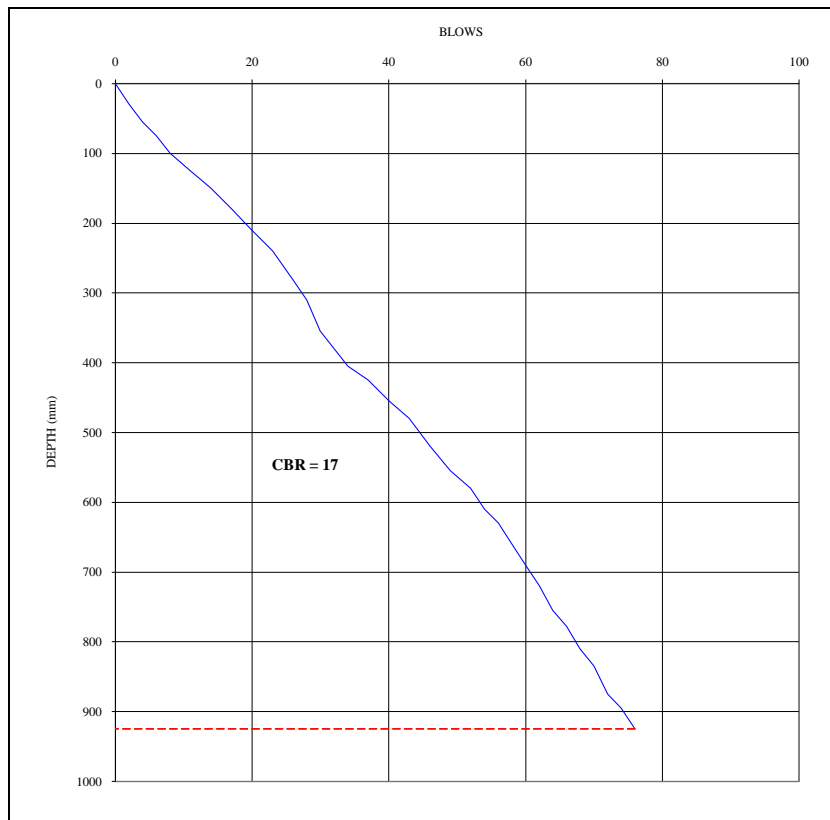
Figure B-232 DCP Profile



Location: Km 47+500, Rt/7.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 233**

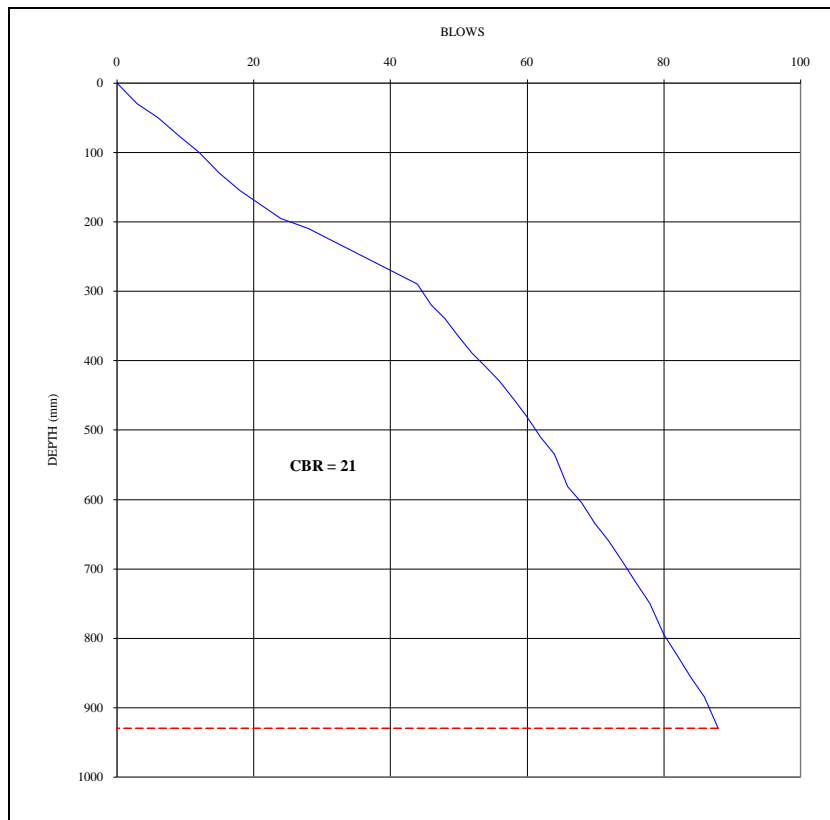
**Figure B-233 DCP Profile**



Location: Km 47+750, Lt/7.50 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 234**

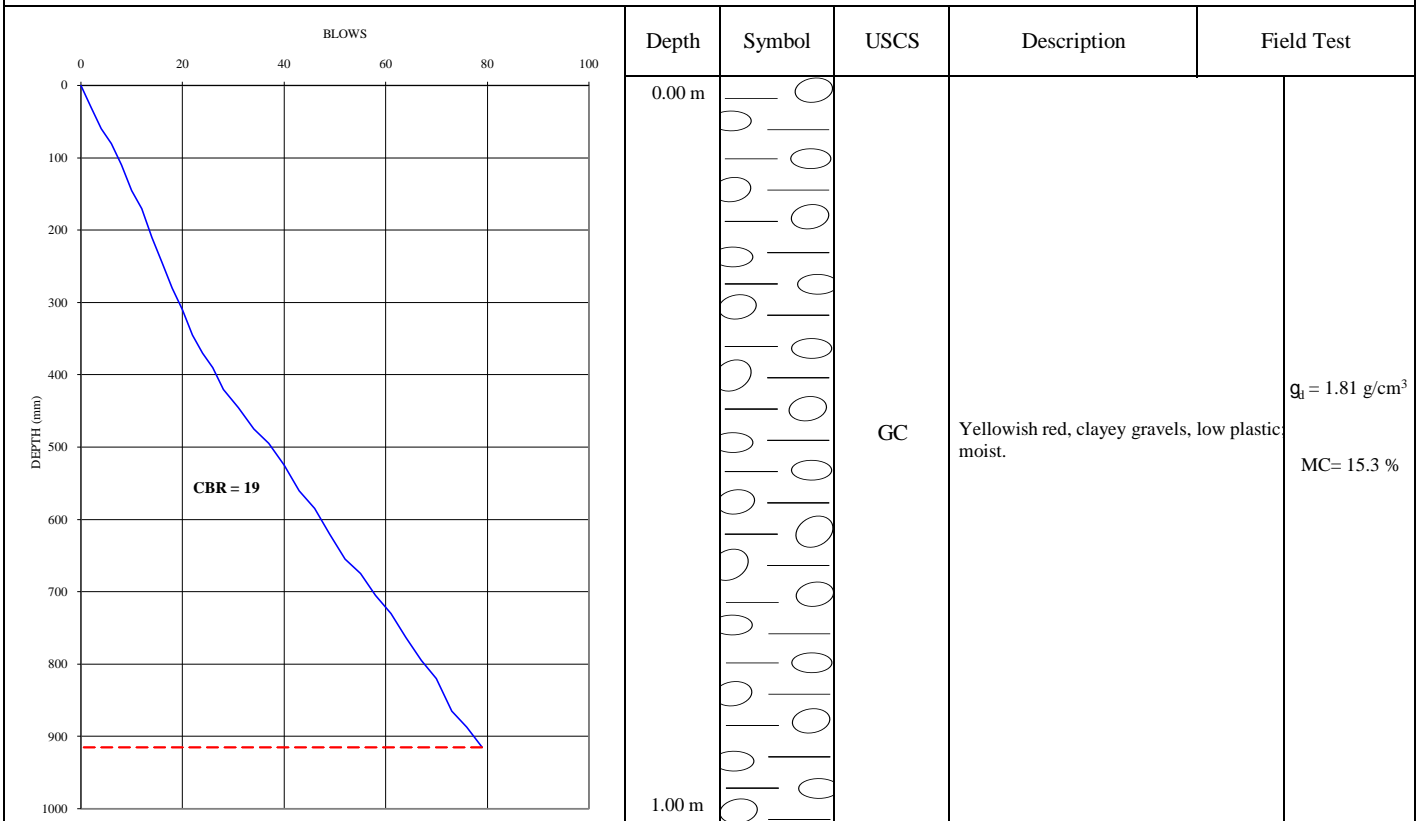
**Figure B-234 DCP Profile**



Location: Km 48+000 Rt/8.50 m

Depth: 0.00m - 1.00 m

Date : 15/08/2017



DCP Test No. 235

Test Pit No. 64

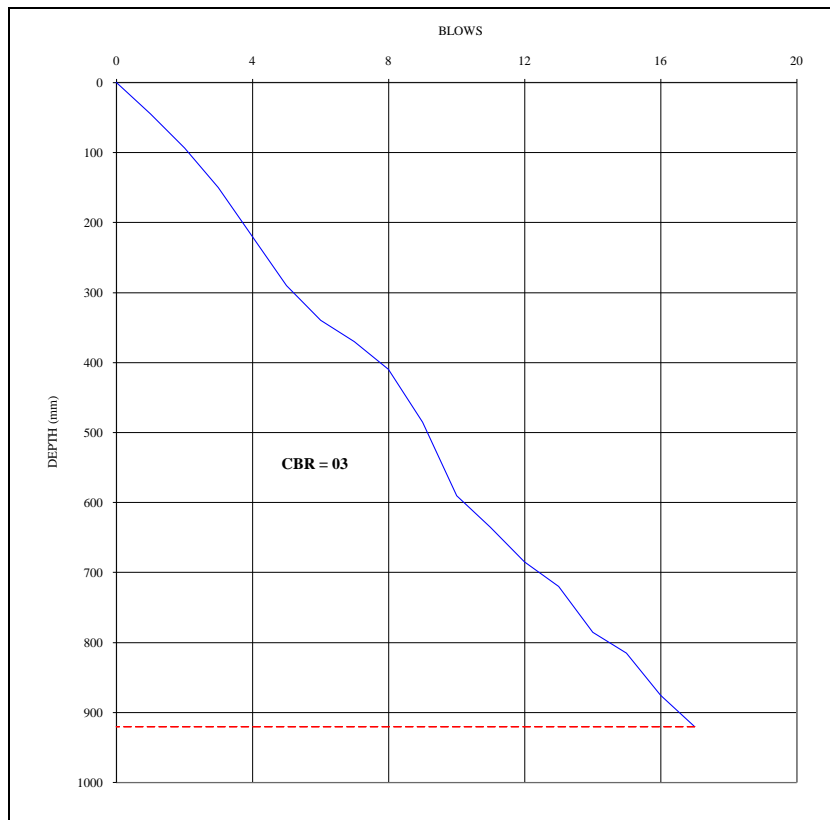
Figure B-235 DCP Profile and Test Pit Log



Location: Km 48+000, Lt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 14/08/2017



**DCP Test No. 236**

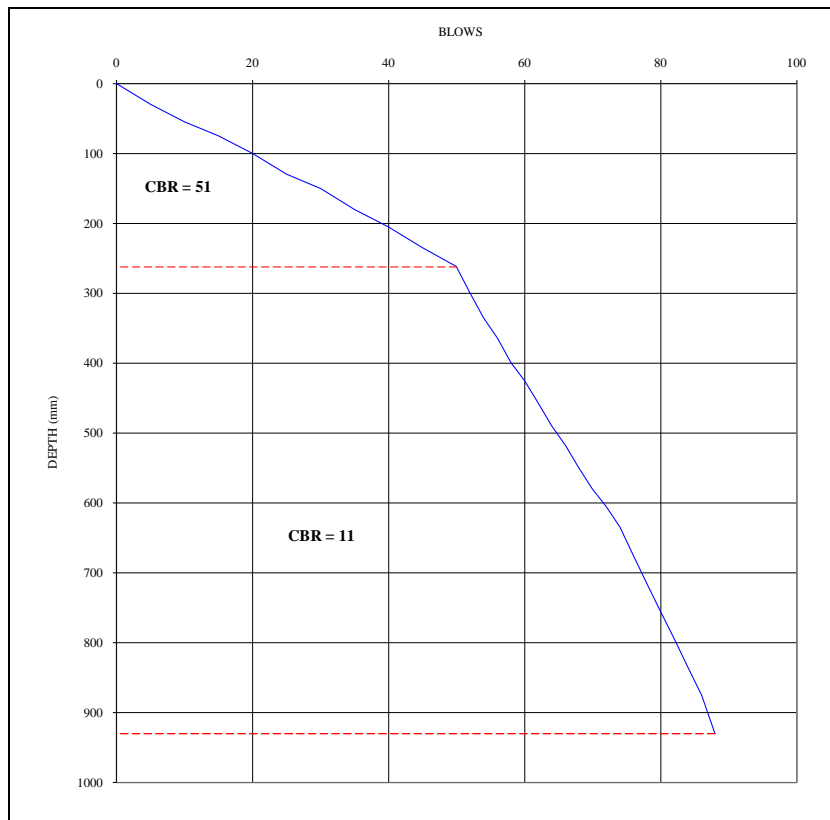
**Figure B-236 DCP Profile**



Location: Km 48+250, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



DCP Test No. 237

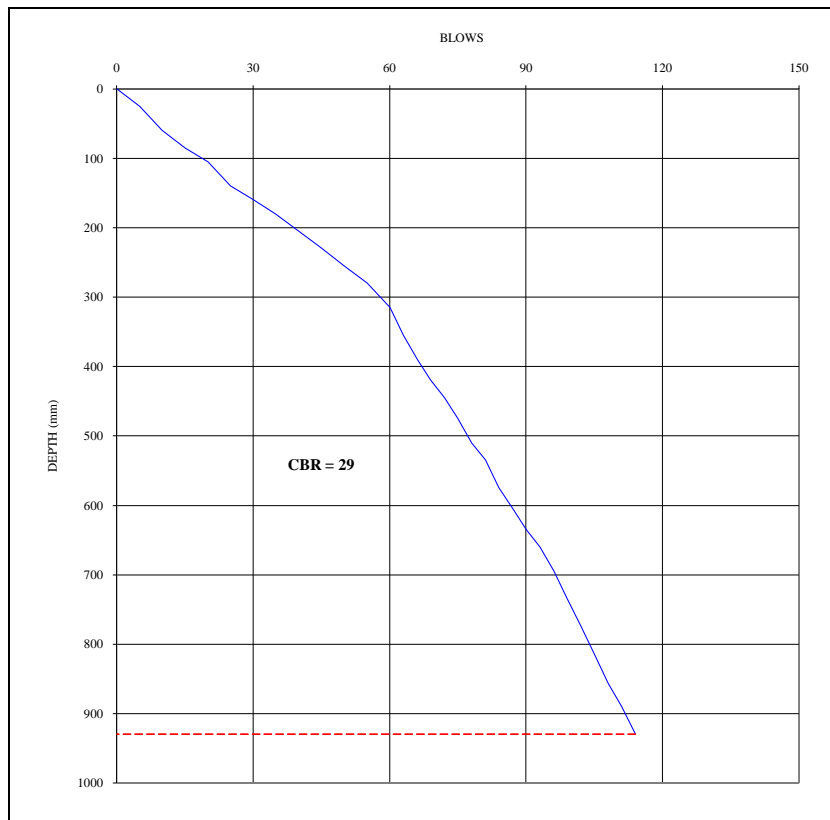
Figure B-237 DCP Profile



Location: Km 48+500, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 238**

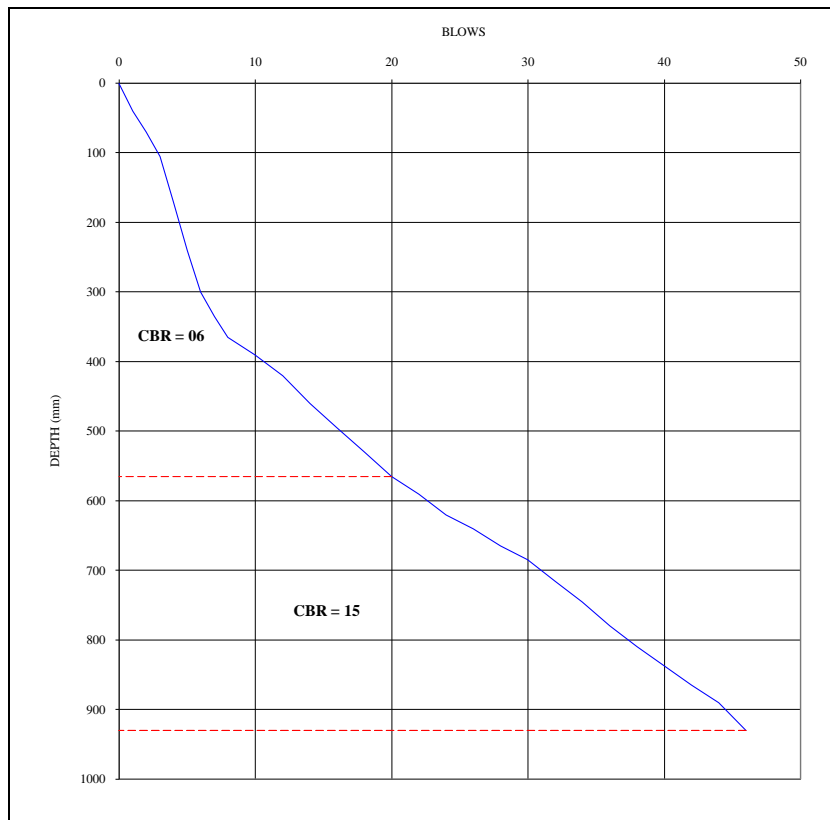
**Figure B-238 DCP Profile**



Location: Km 48+750, Rt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



DCP Test No. 239

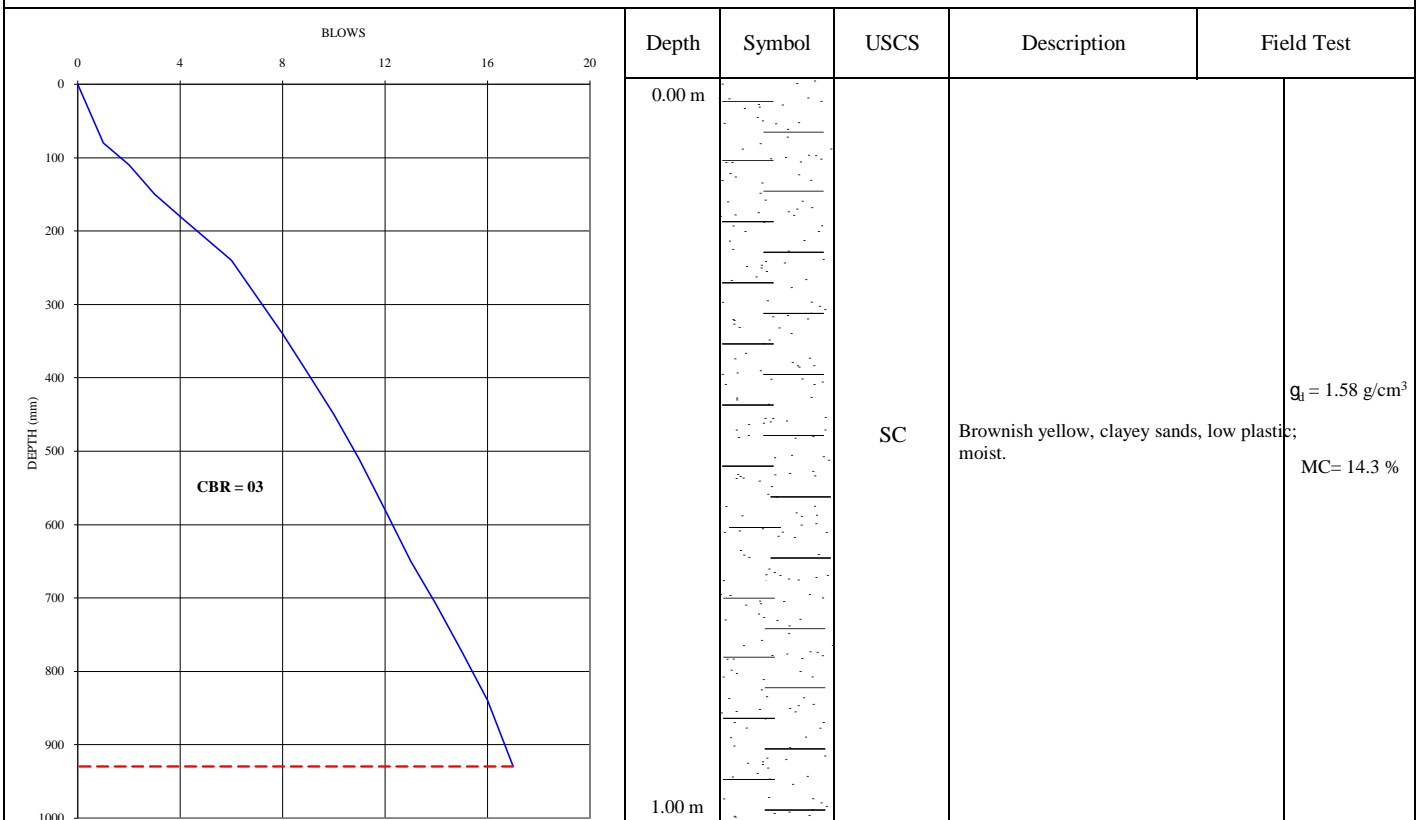
Figure B-239 DCP Profile



Location: Km 49+000 Lt/8.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 240

Test Pit No. 65

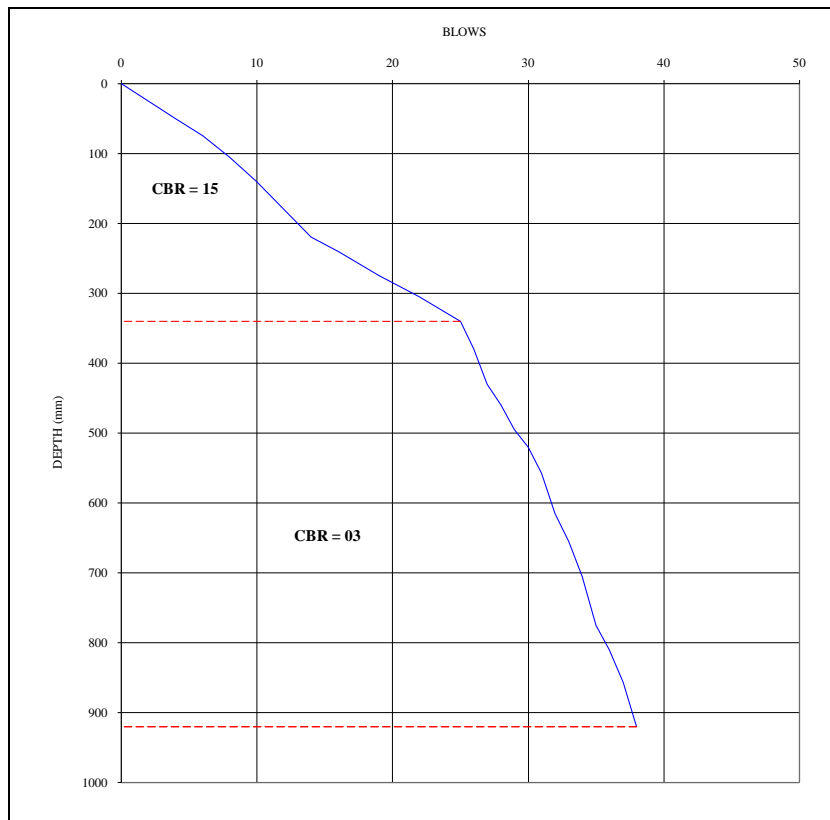
Figure B-240 DCP Profile and Test Pit Log



Location: Km 49+000, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 241**

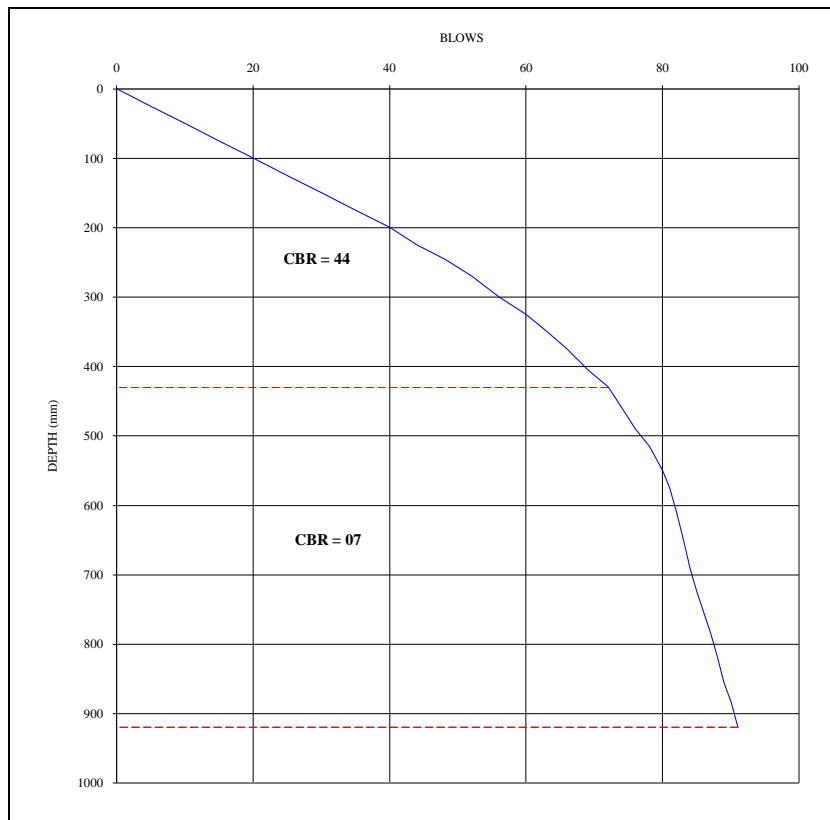
**Figure B-241 DCP Profile**



Location: Km 49+250, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 242**

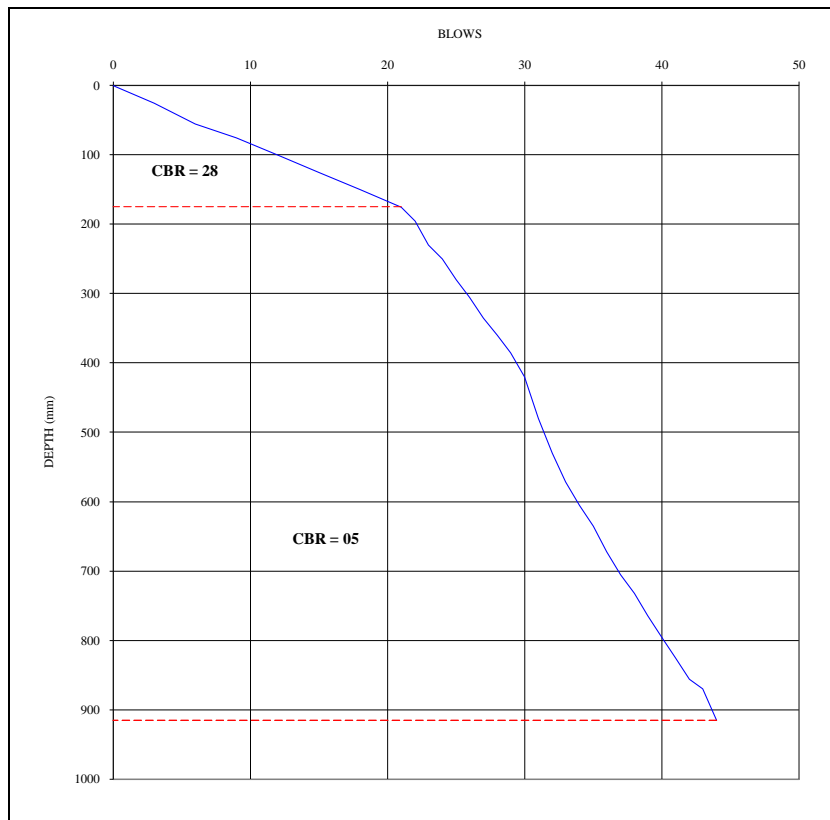
**Figure B-242 DCP Profile**



Location: Km 49+500, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 243**

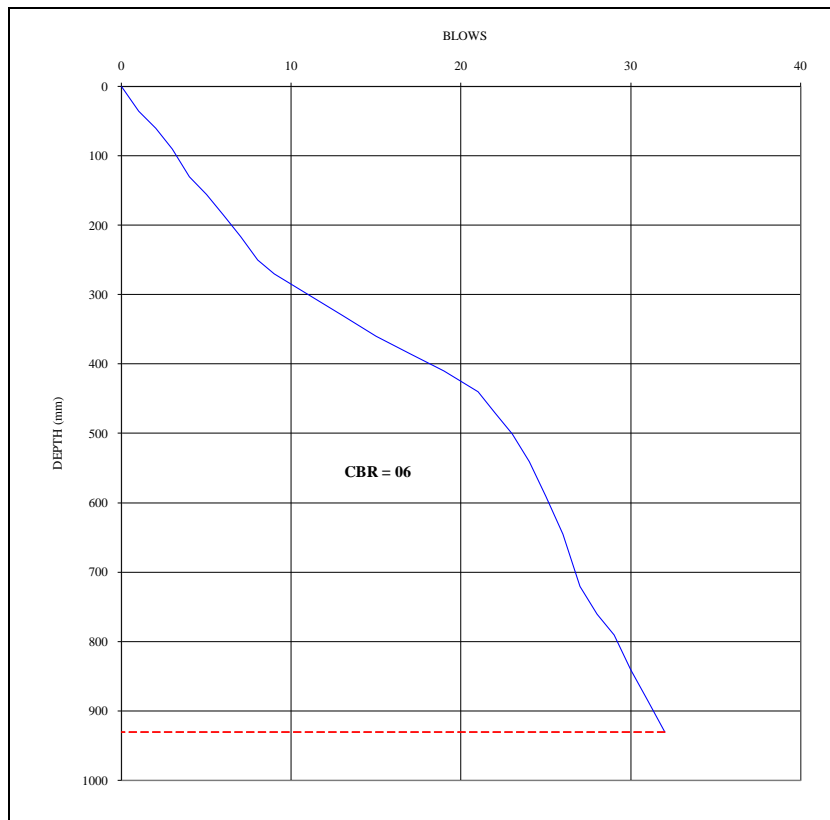
**Figure B-243 DCP Profile**



Location: Km 49+750, Lt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 244**

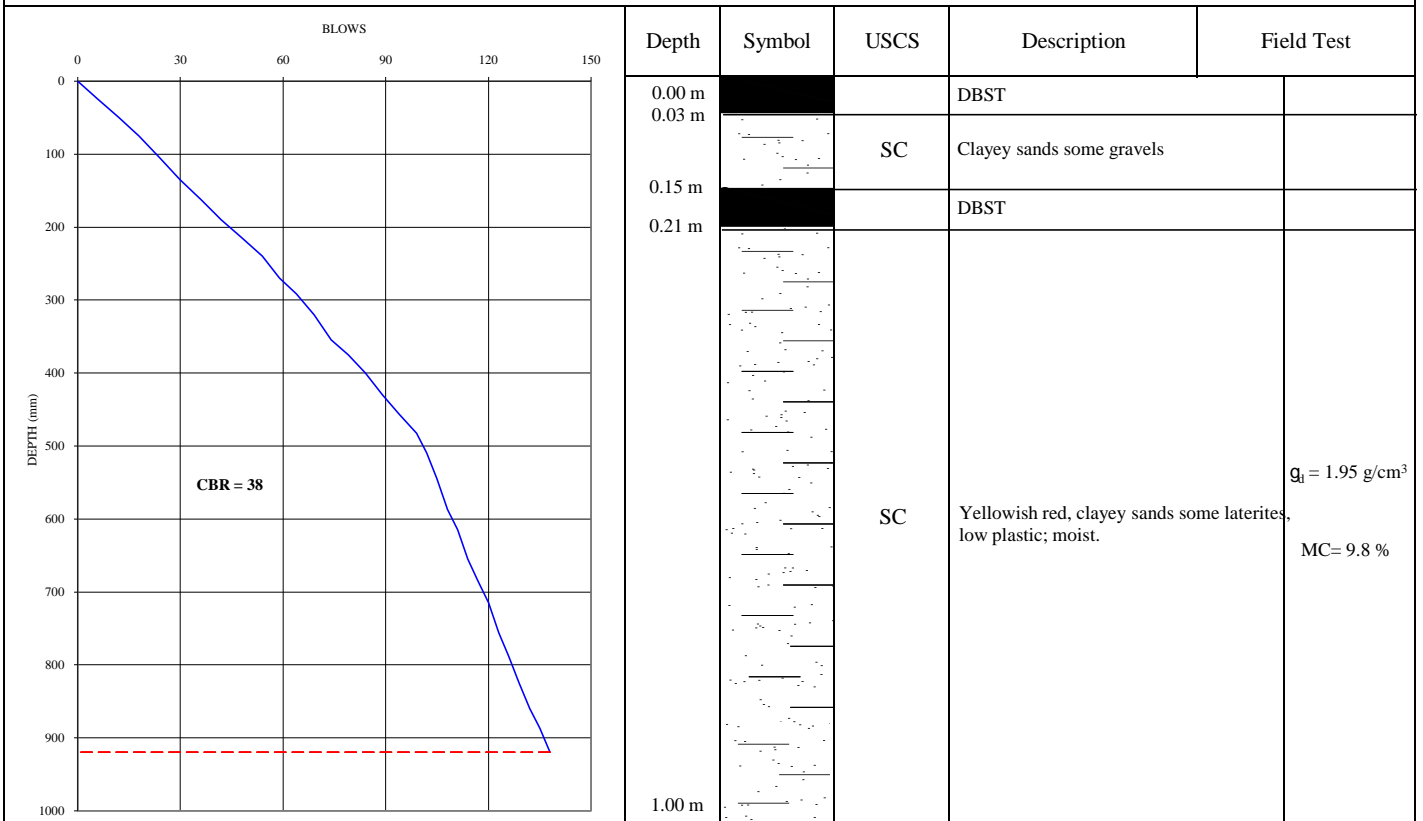
**Figure B-244 DCP Profile**



Location: Km 50+000 Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 245

Test Pit No. 66

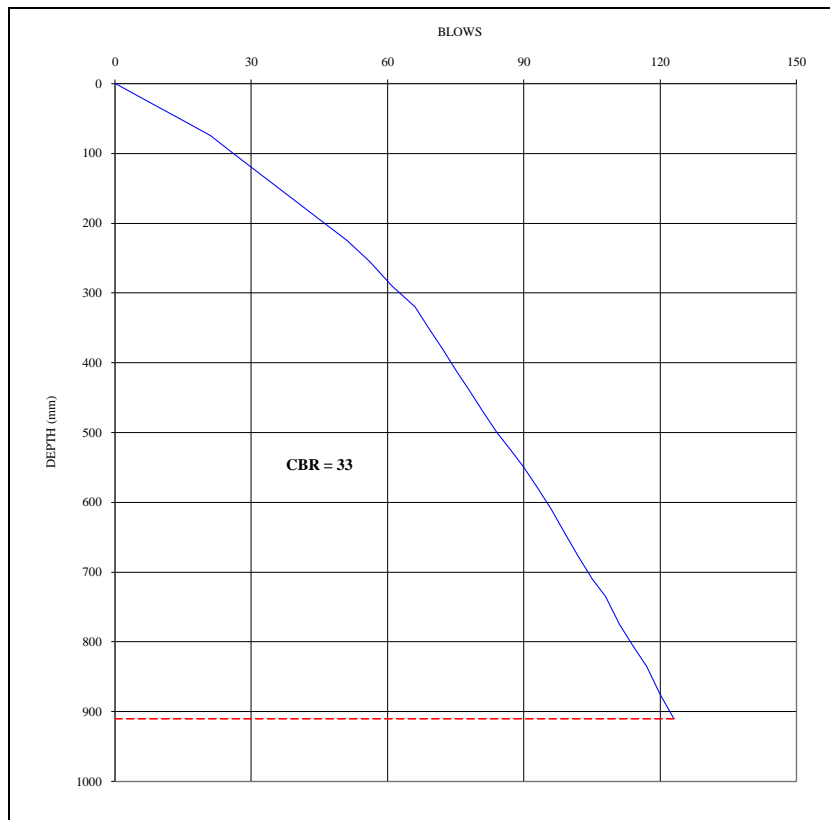
Figure B-245 DCP Profile and Test Pit Log



Location: Km 50+000, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 246**

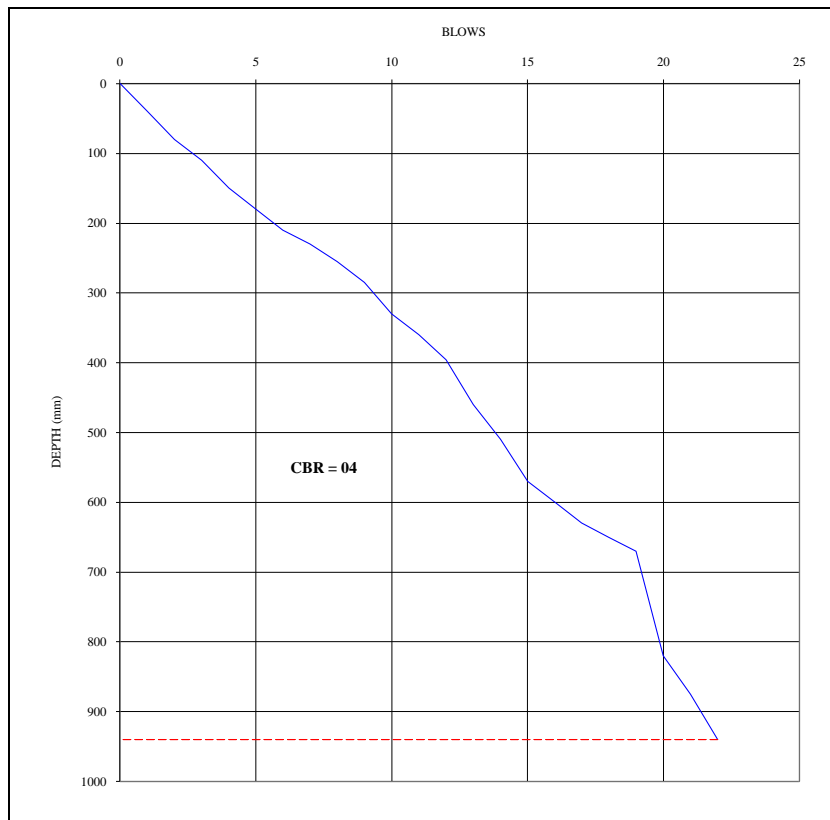
**Figure B-246 DCP Profile**



Location: Km 50+250, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 247**

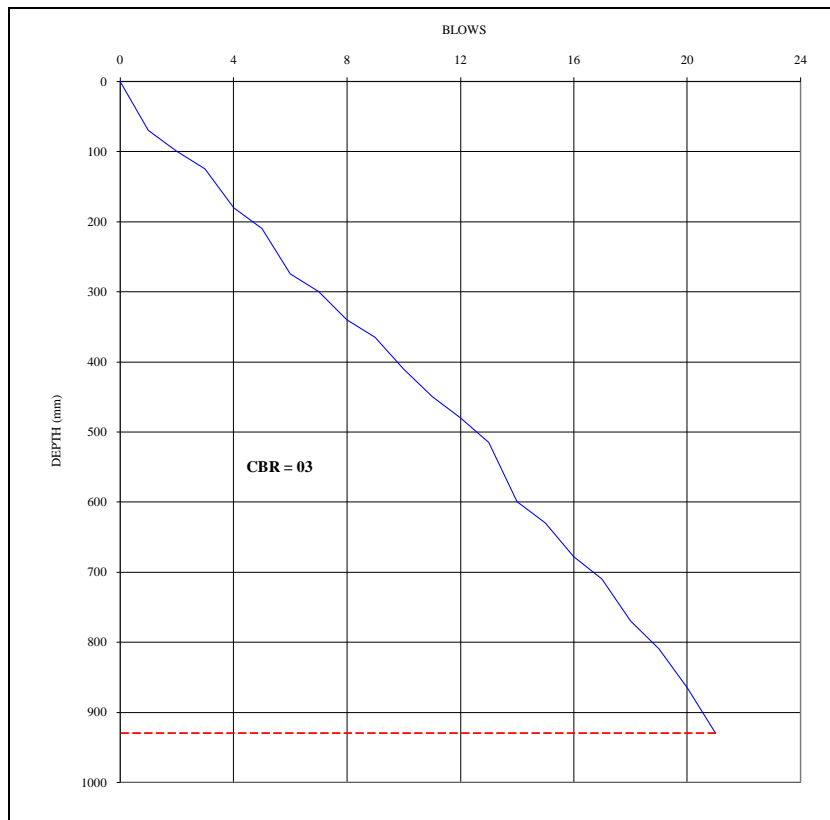
**Figure B-247 DCP Profile**



Location: Km 50+500, Lt/9.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



DCP Test No. 248

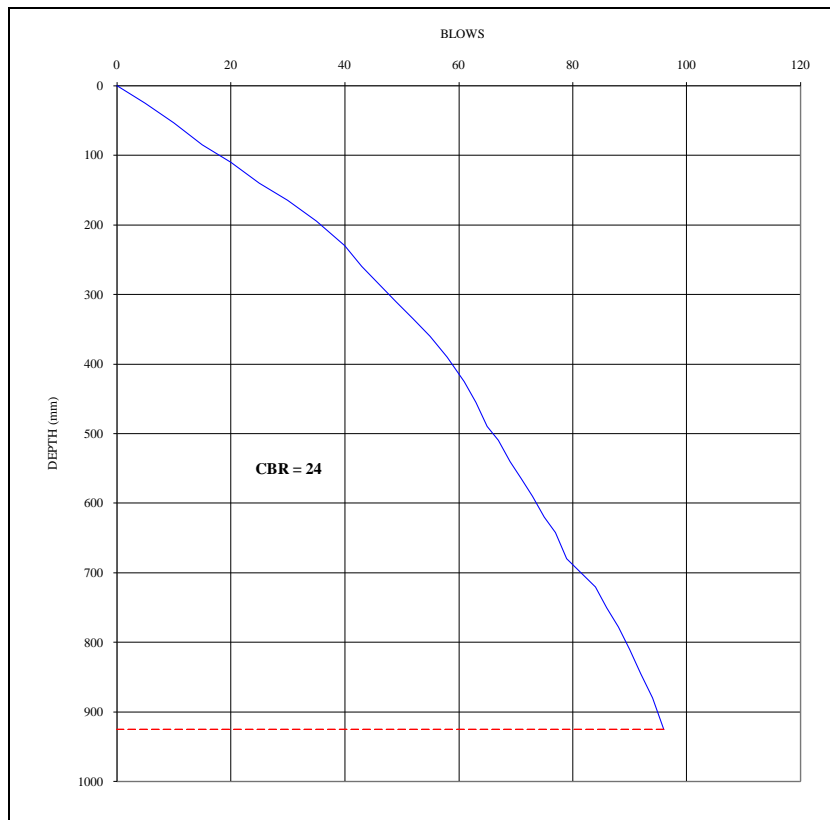
Figure B-248 DCP Profile



Location: Km 50+750, Rt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



DCP Test No. 249

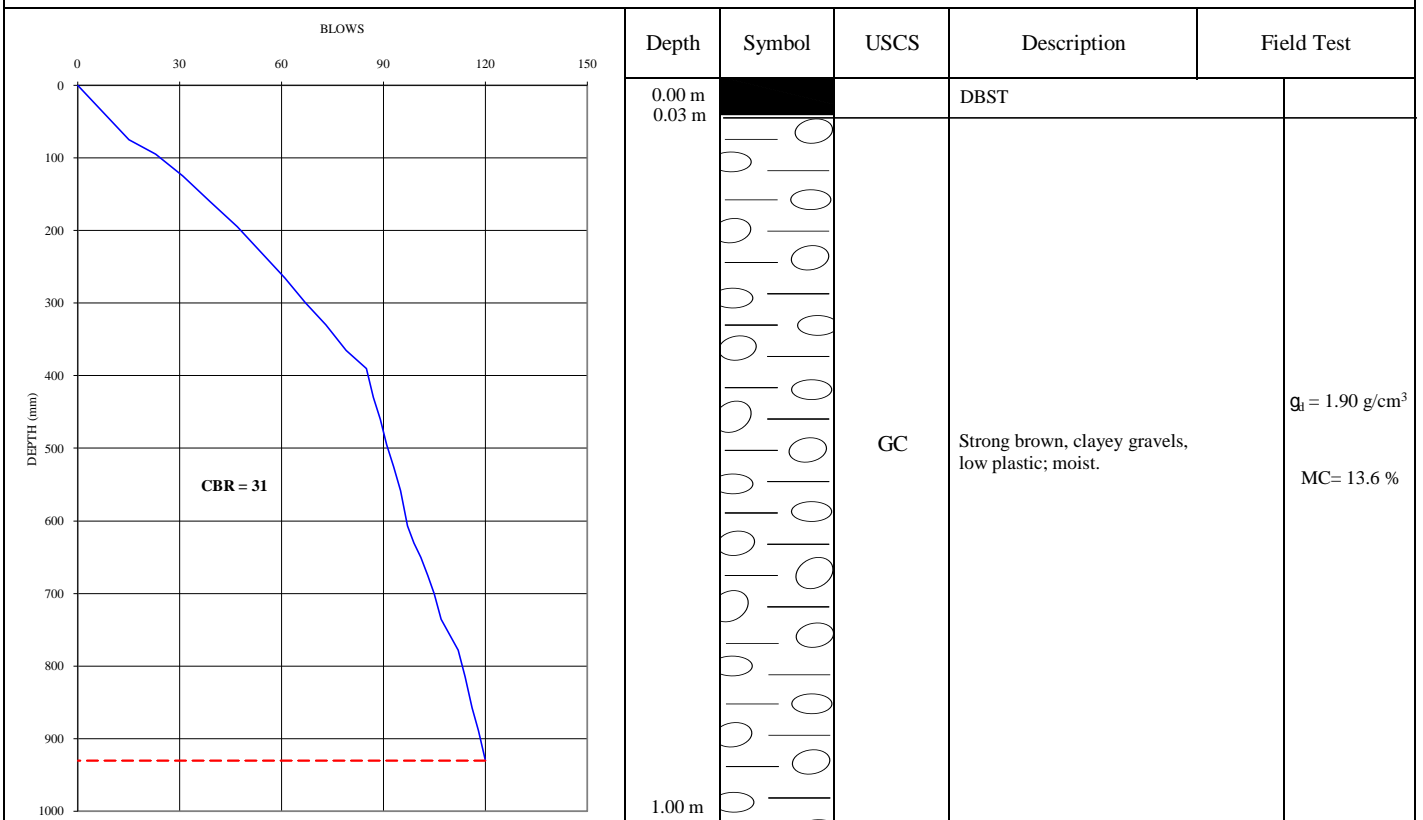
Figure B-249 DCP Profile



Location: Km 51+000 Lt/5.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 250

Test Pit No. 67

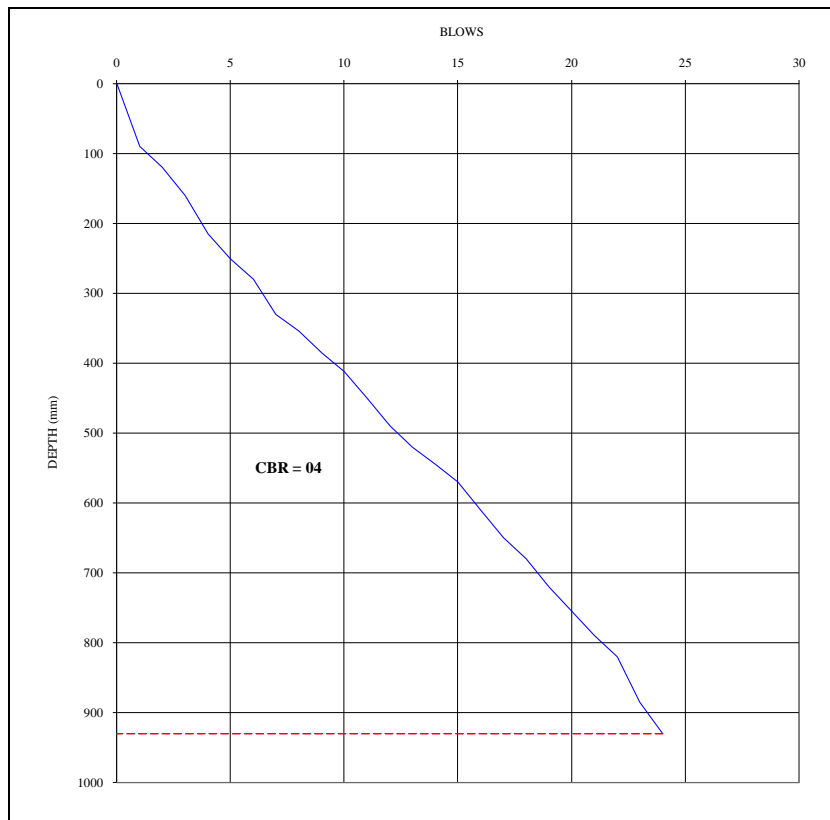
Figure B-250 DCP Profile and Test Pit Log



Location: Km 51+000, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 251**

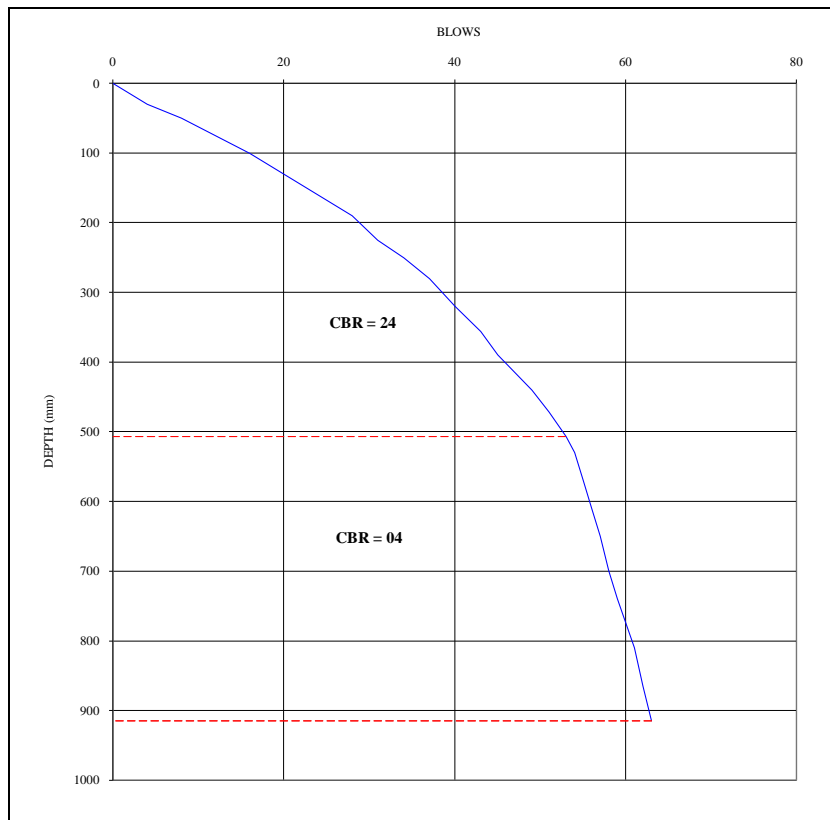
**Figure B-251 DCP Profile**



Location: Km 51+250, Lt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



DCP Test No. 252

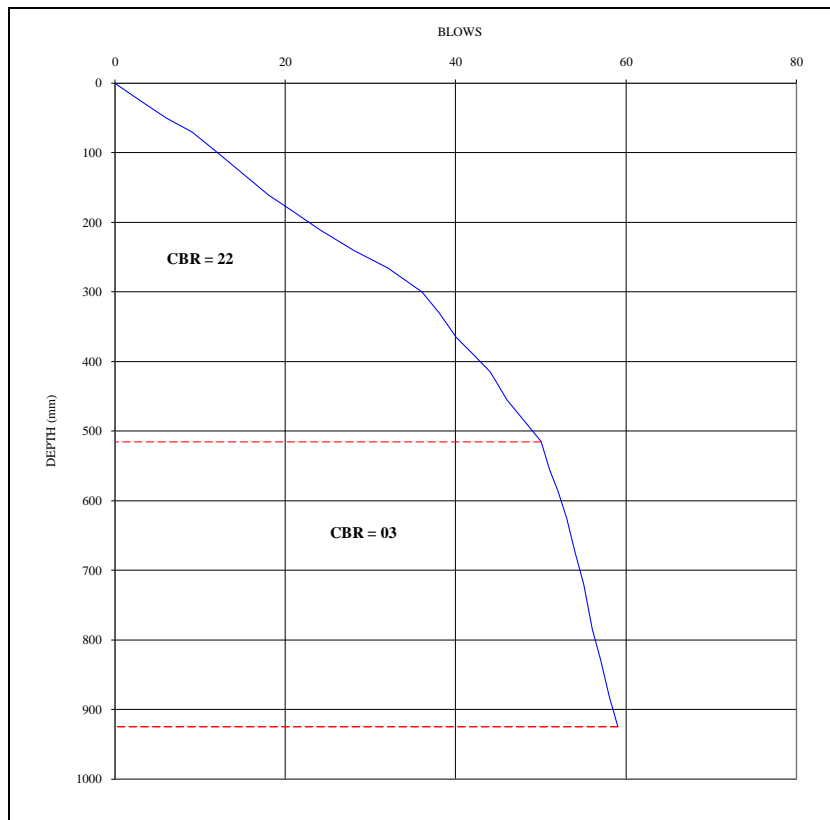
Figure B-252 DCP Profile



Location: Km 51+500, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 253**

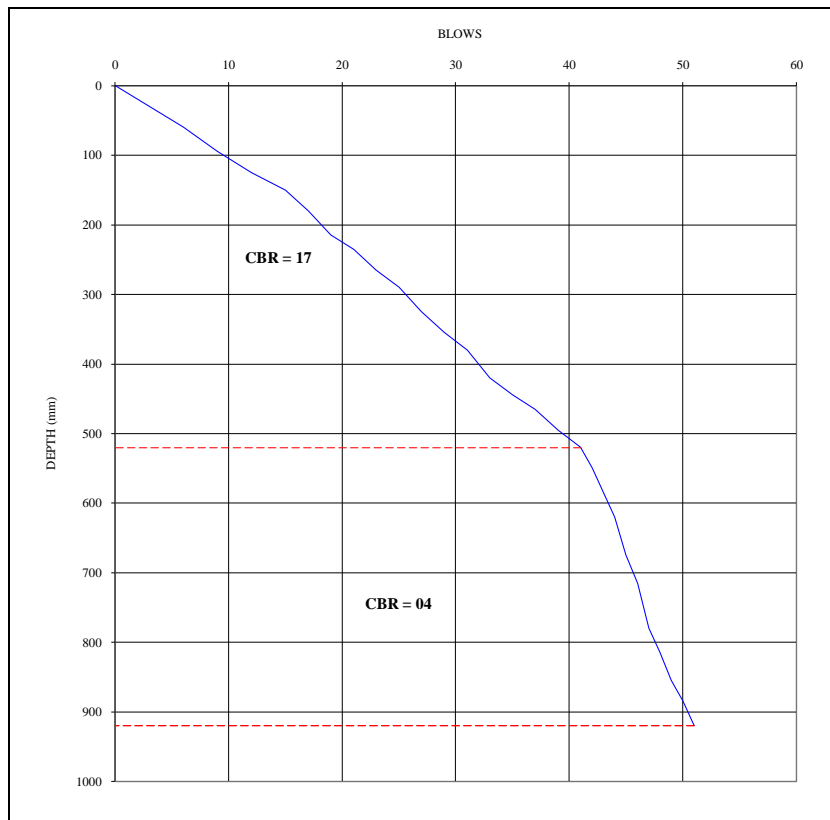
**Figure B-253 DCP Profile**



Location: Km 51+750, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 254**

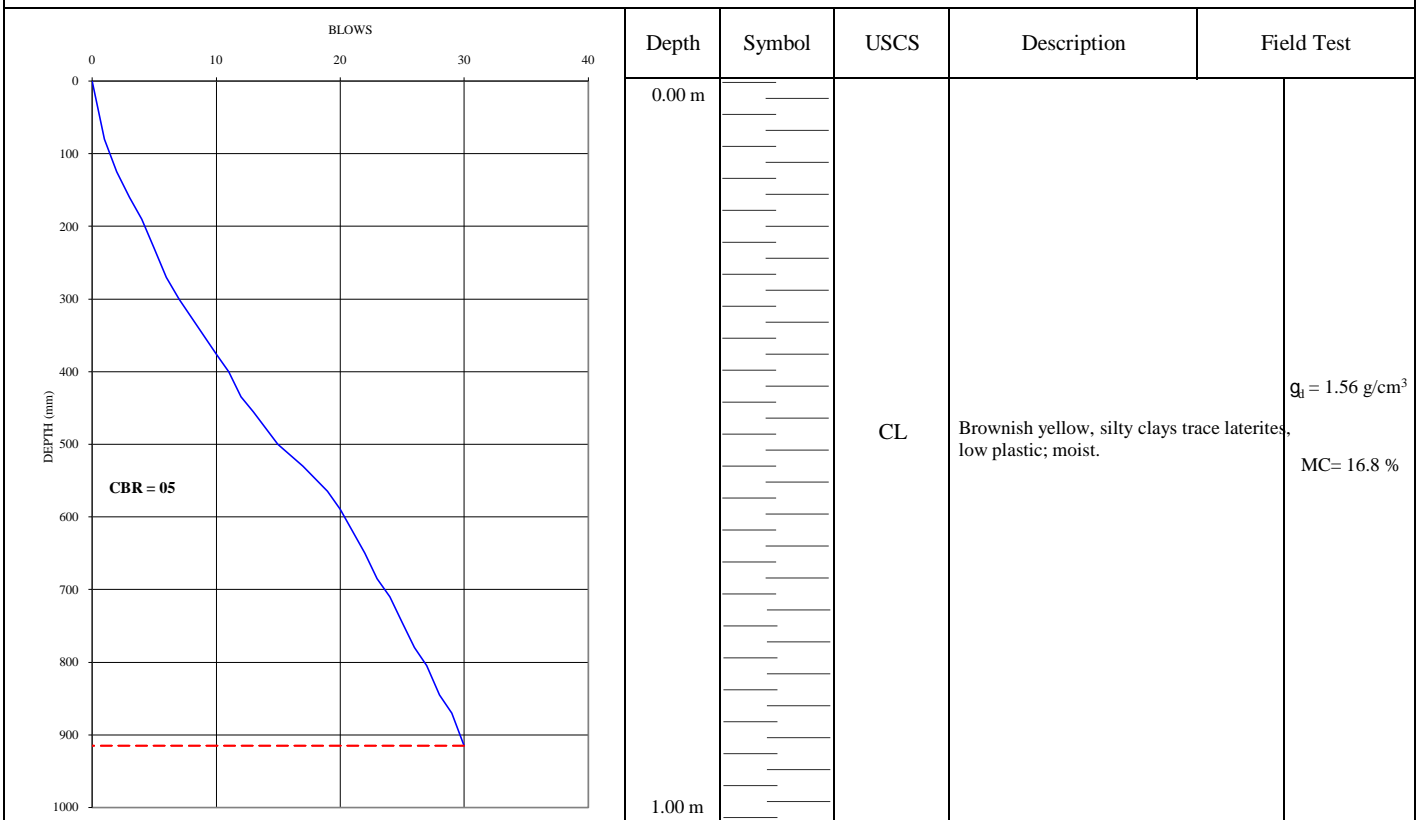
**Figure B-254 DCP Profile**



Location: Km 52+000 Rt/8.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 255

Test Pit No. 68

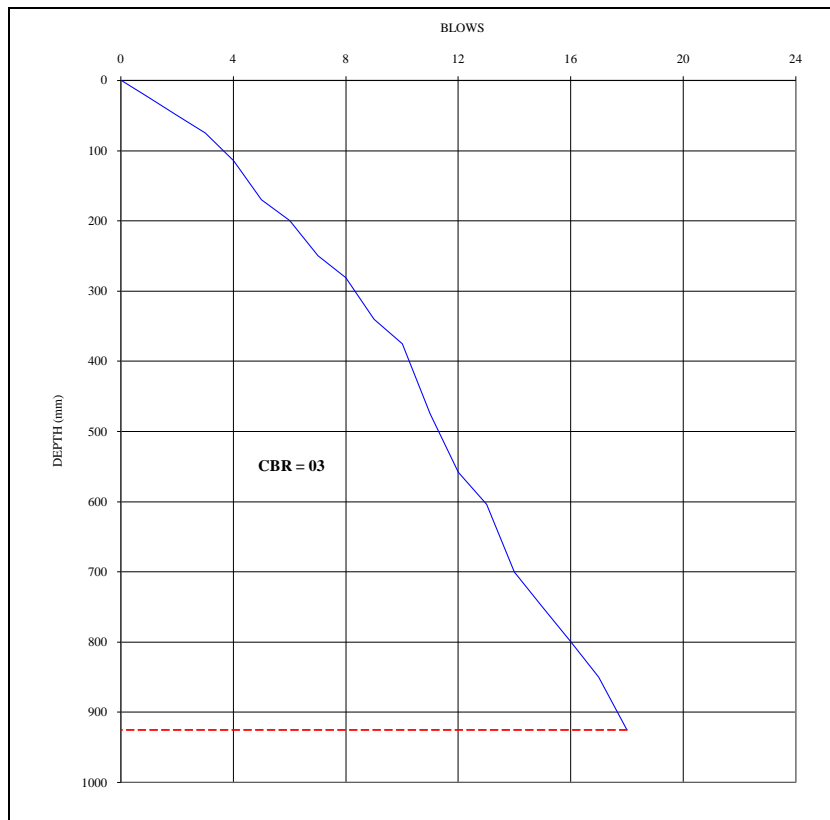
Figure B-255 DCP Profile and Test Pit Log



Location: Km 52+000, Lt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 15/08/2017



**DCP Test No. 256**

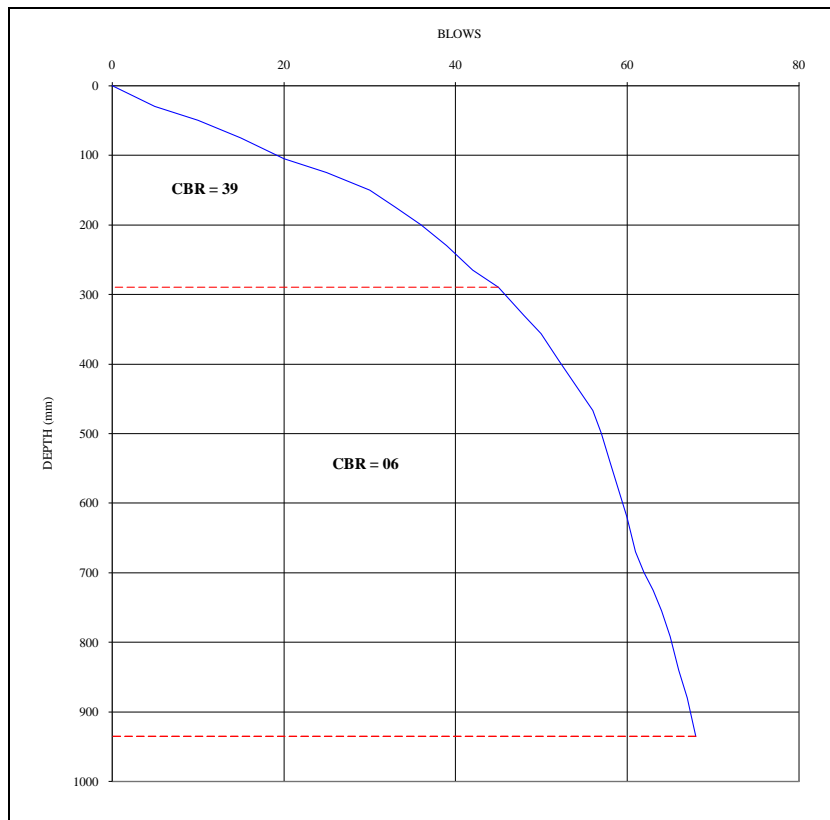
**Figure B-256 DCP Profile**



Location: Km 52+250, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 257**

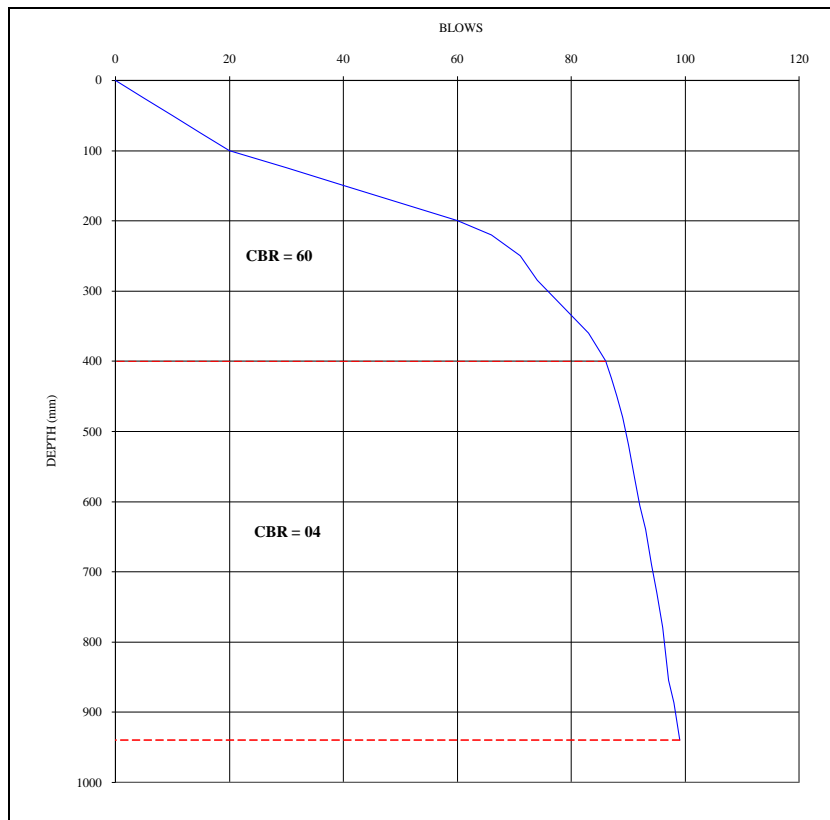
**Figure B-257 DCP Profile**



Location: Km 52+500, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 258**

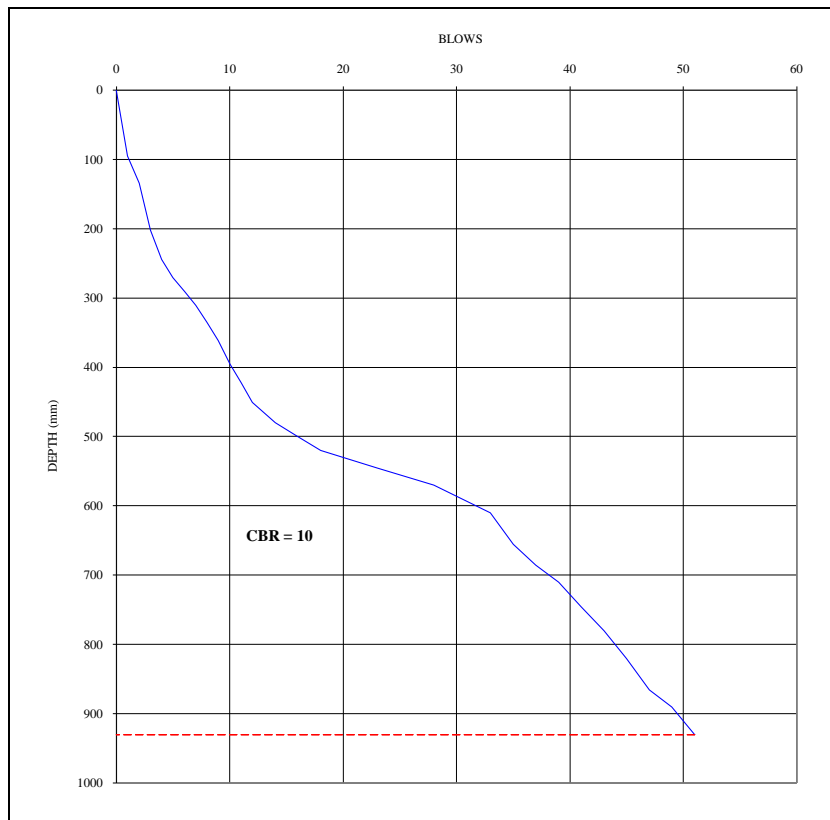
**Figure B-258 DCP Profile**



Location: Km 52+750, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 259**

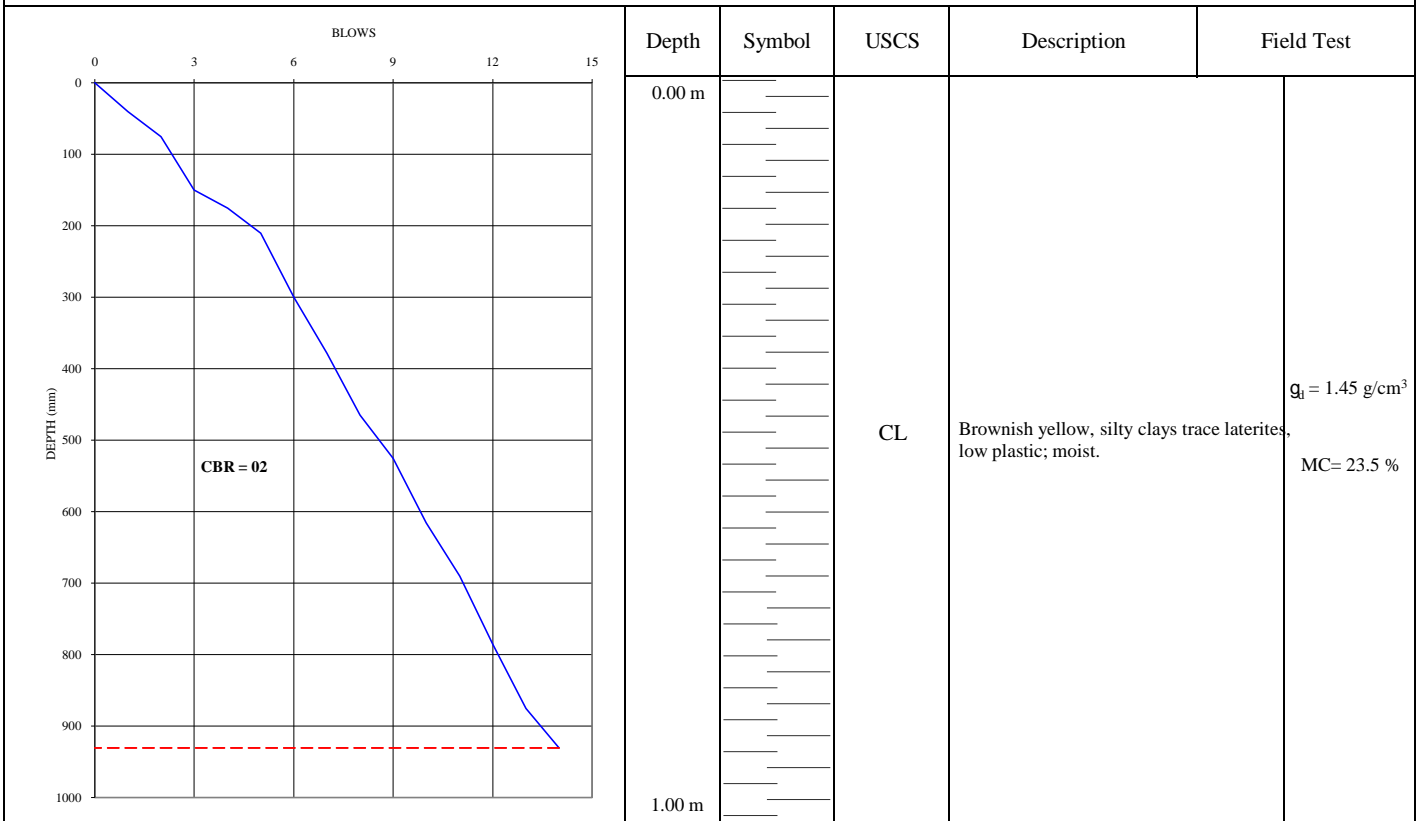
**Figure B-259 DCP Profile**



Location: Km 53+000 Lt/8.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 260

Test Pit No. 69

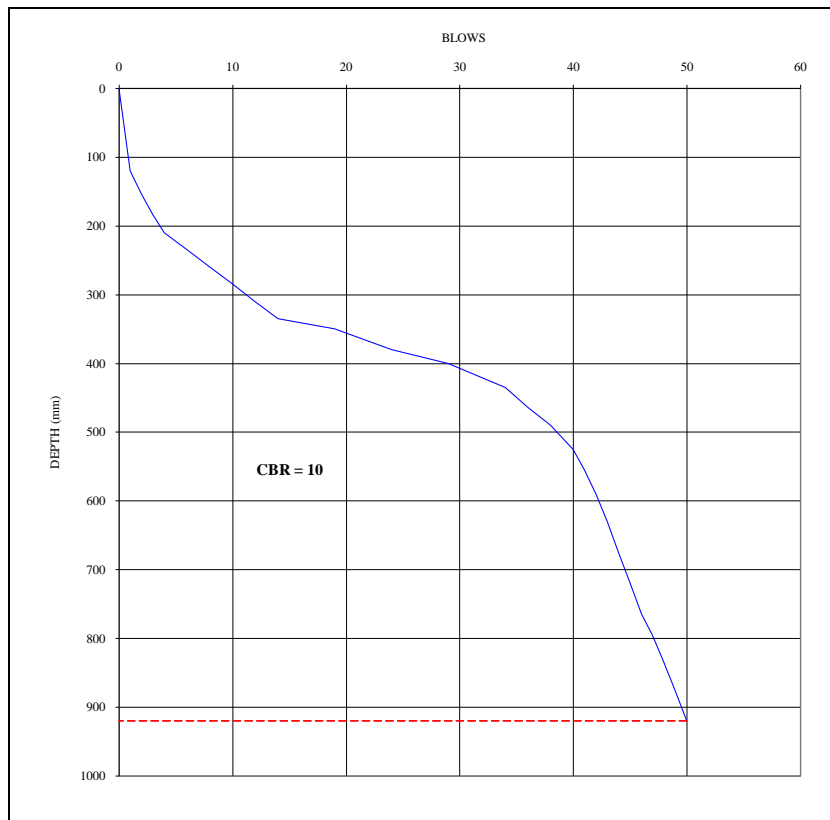
Figure B-260 DCP Profile and Test Pit Log



Location: Km 53+000, Rt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 261**

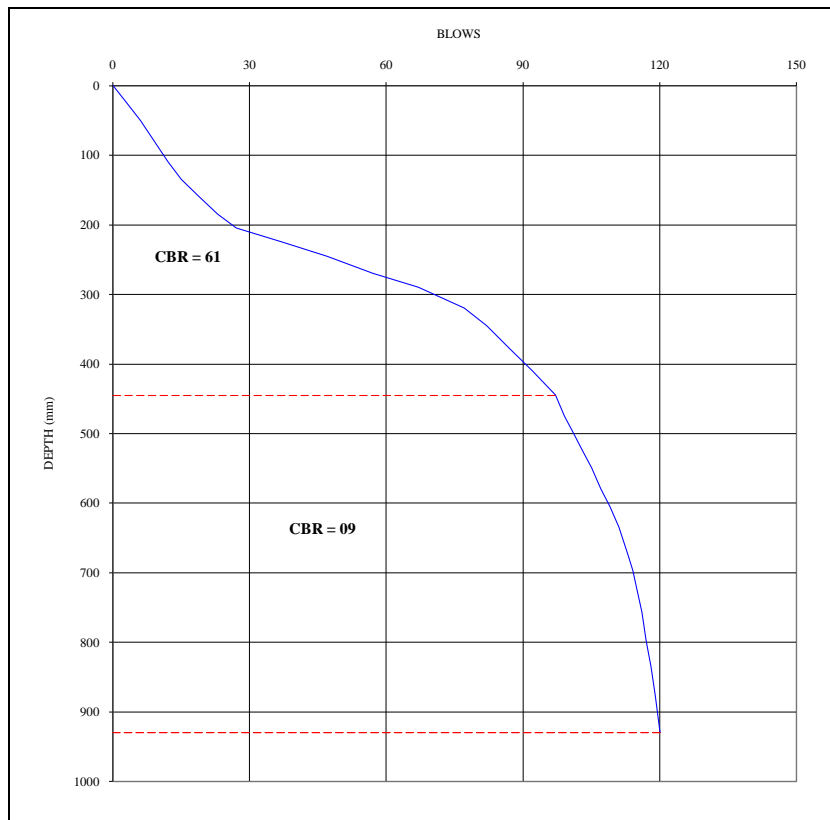
**Figure B-261 DCP Profile**



Location: Km 53+250, Lt/6.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



DCP Test No. 262

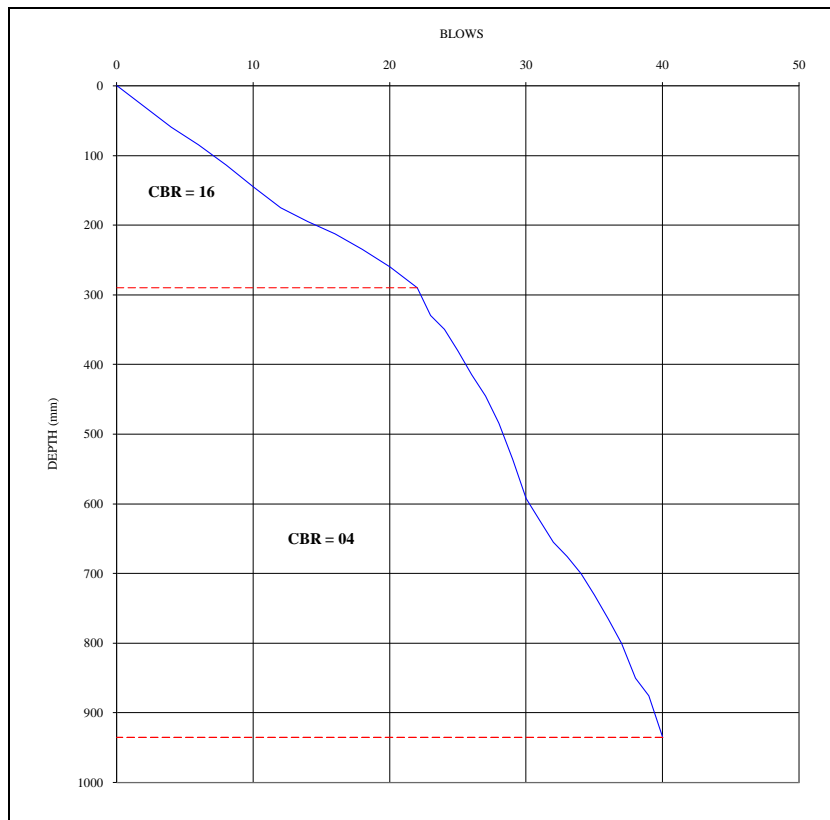
Figure B-262 DCP Profile



Location: Km 53+500, Rt/5.20 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 263**

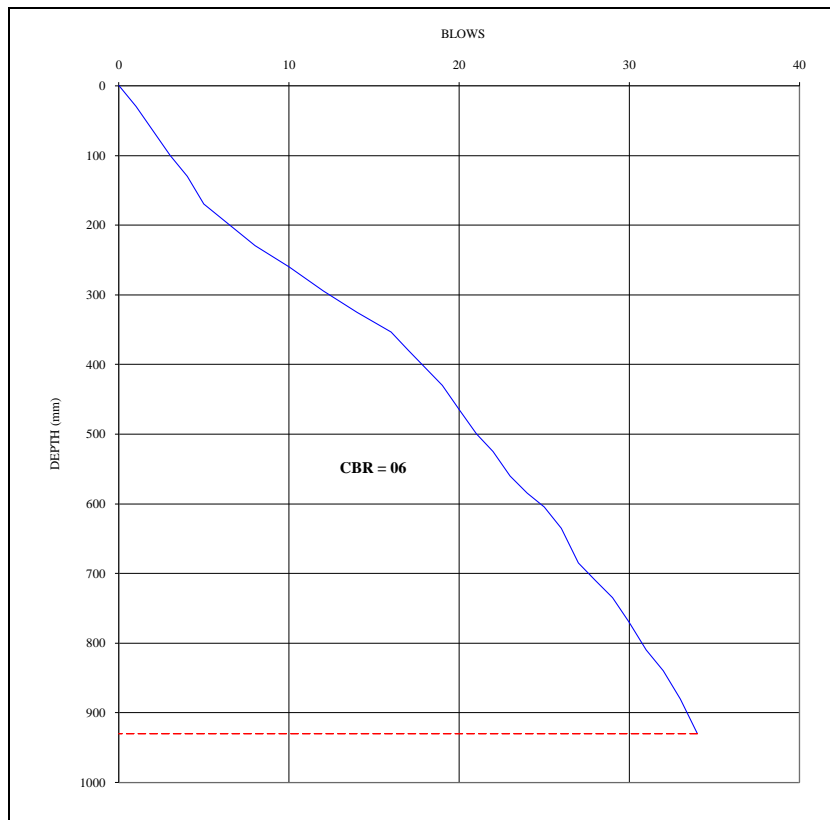
**Figure B-263 DCP Profile**



Location: Km 53+750, Lt/8.50 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 264**

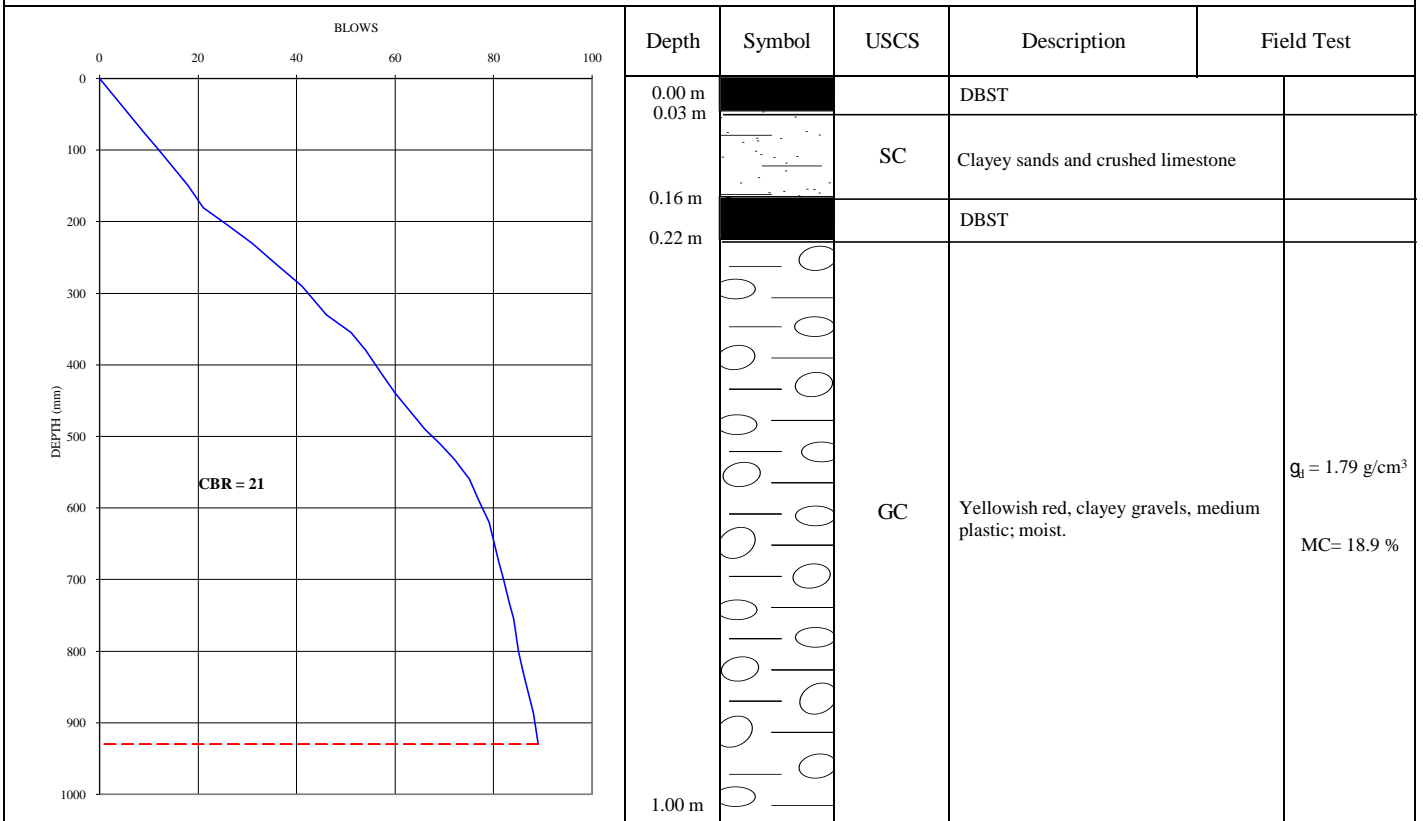
**Figure B-264 DCP Profile**



Location: Km 54+000 Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 265

Test Pit No. 70

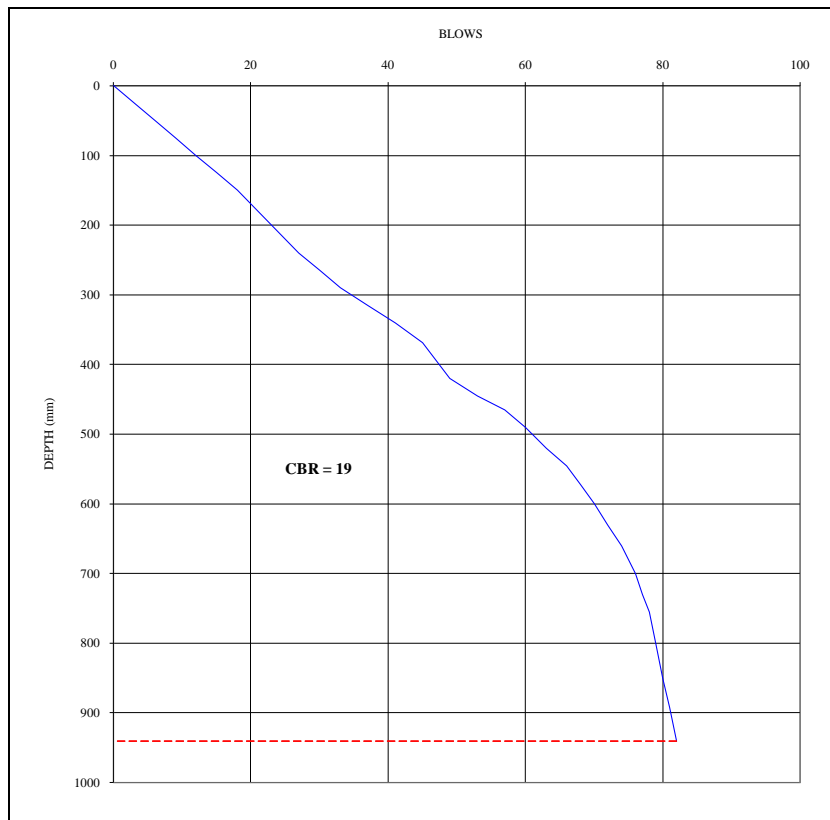
Figure B-265 DCP Profile and Test Pit Log



Location: Km 54+000, Lt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 266**

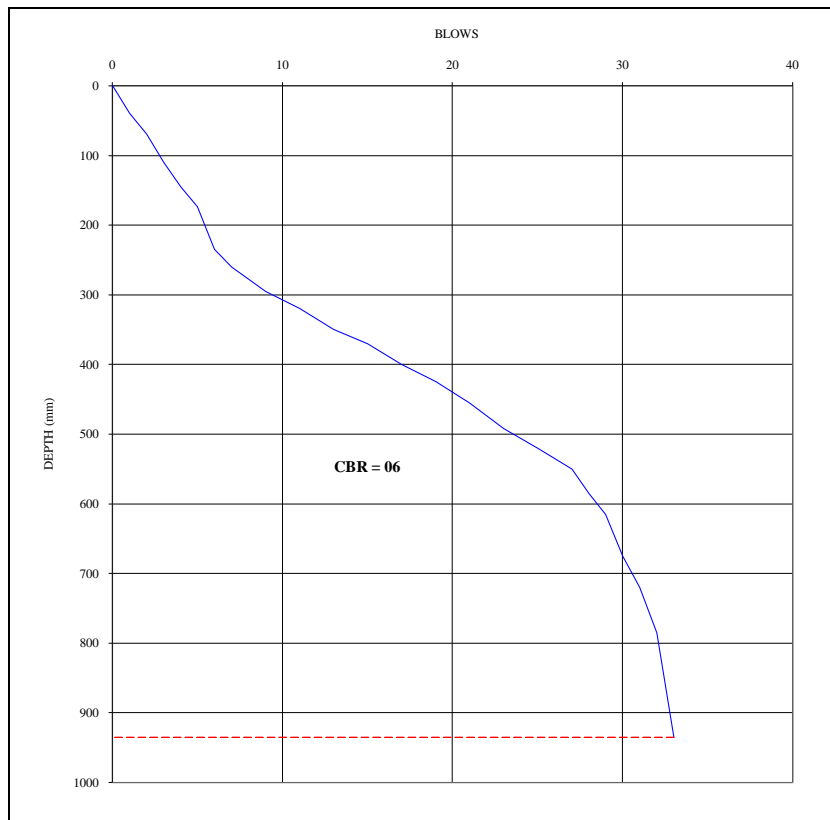
**Figure B-266 DCP Profile**



Location: Km 54+250, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 267**

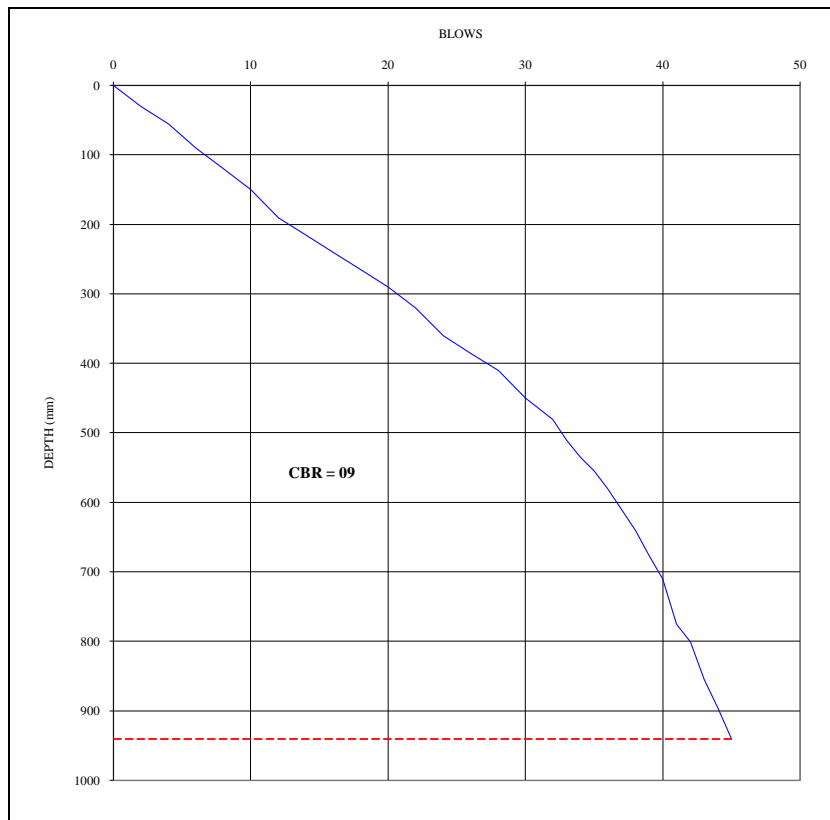
**Figure B-267 DCP Profile**



Location: Km 54+500, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 268**

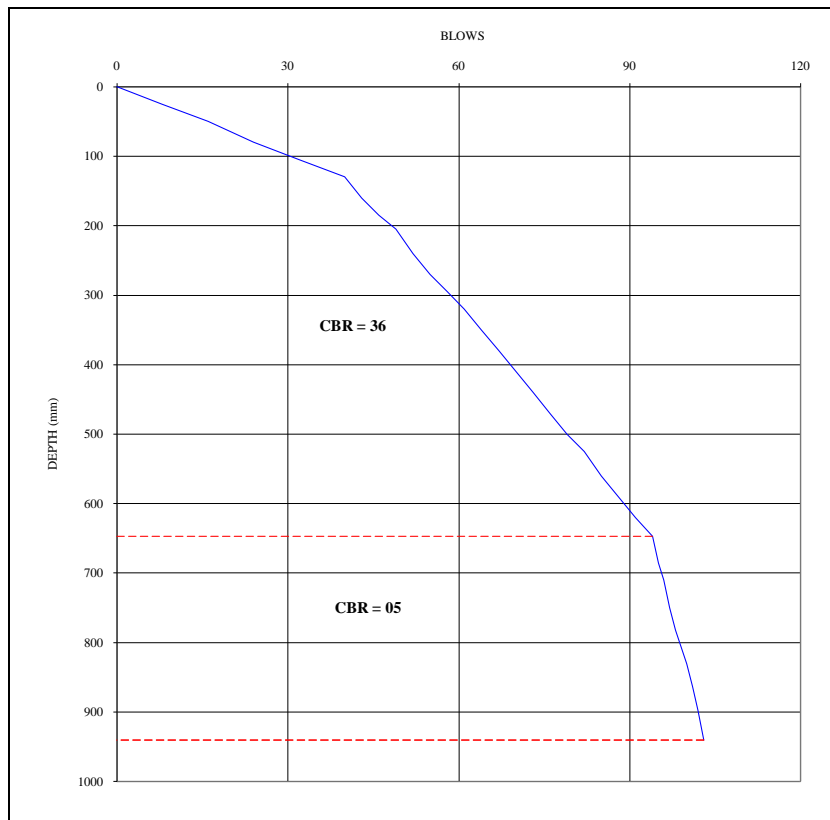
**Figure B-268 DCP Profile**



Location: Km 54+750, Rt/5.50 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



DCP Test No. 269

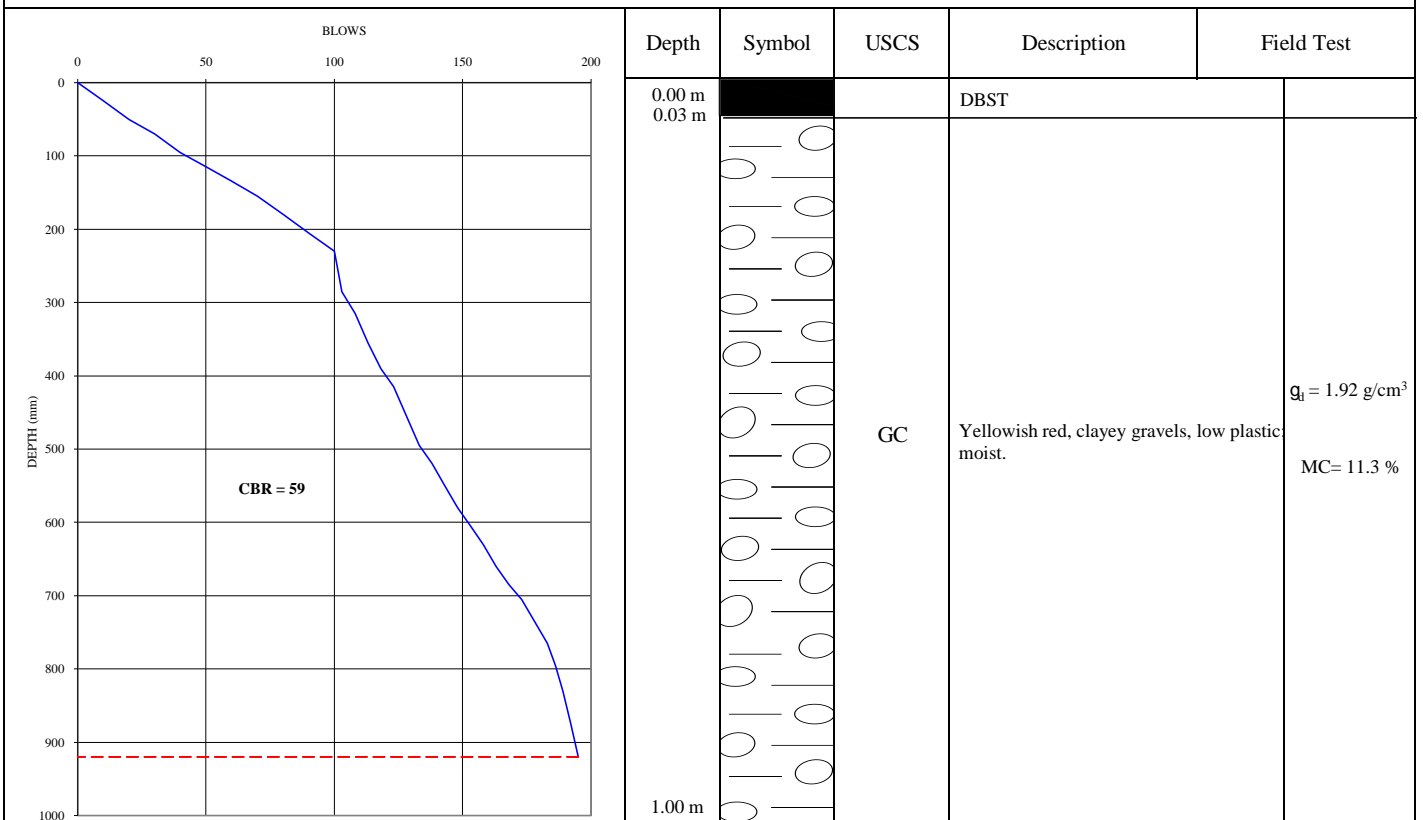
Figure B-269 DCP Profile



Location: Km 54+980 Lt/5.00 m

Depth: 0.00m - 1.00 m

Date : 17/08/2017



DCP Test No. 270

Test Pit No. 71

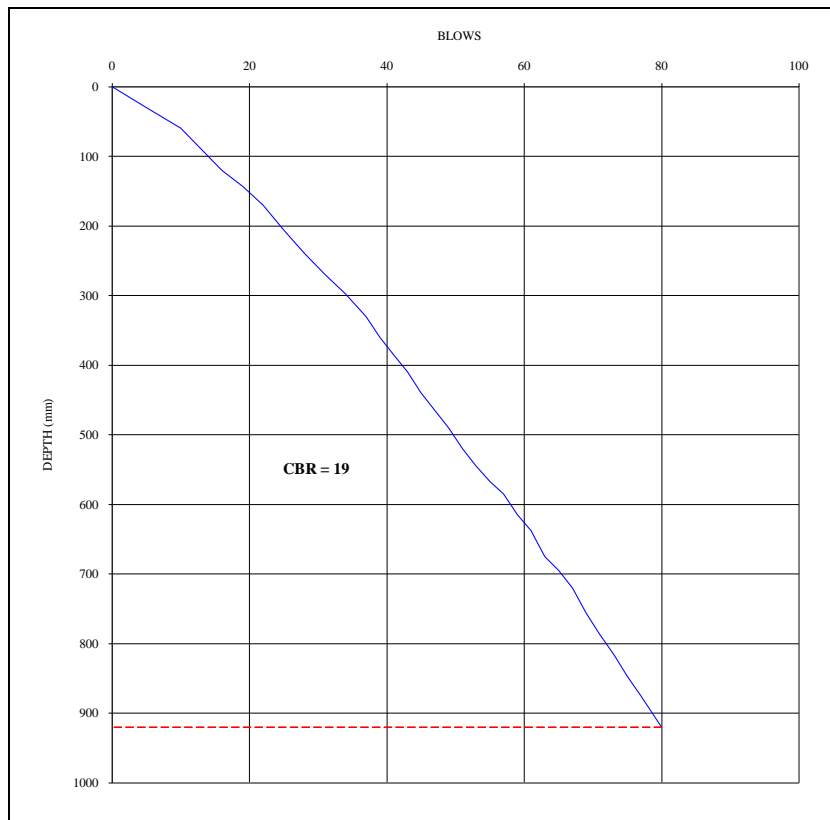
Figure B-270 DCP Profile and Test Pit Log



Location: Km 54+980, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 271**

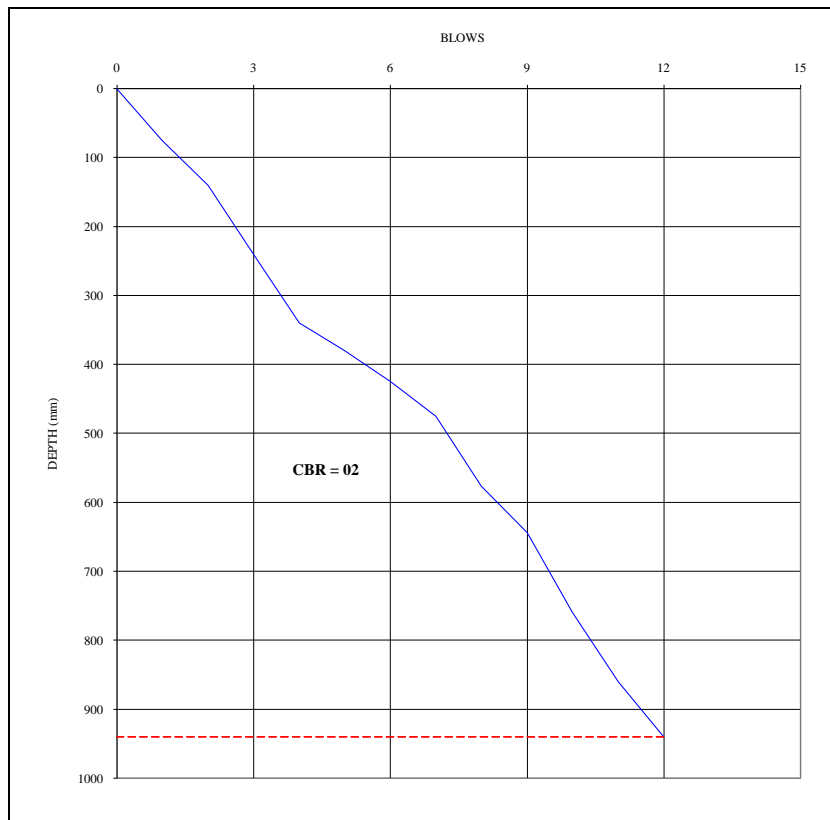
**Figure B-271 DCP Profile**



Location: Km 55+250, Lt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 272**

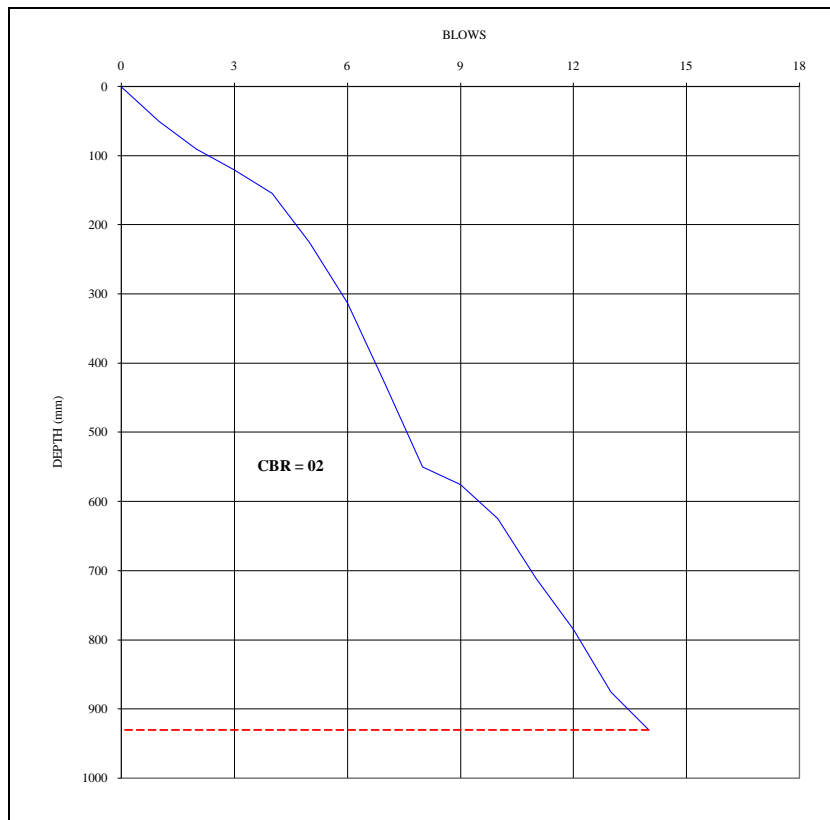
**Figure B-272 DCP Profile**



Location: Km 55+500, Rt/8.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 273**

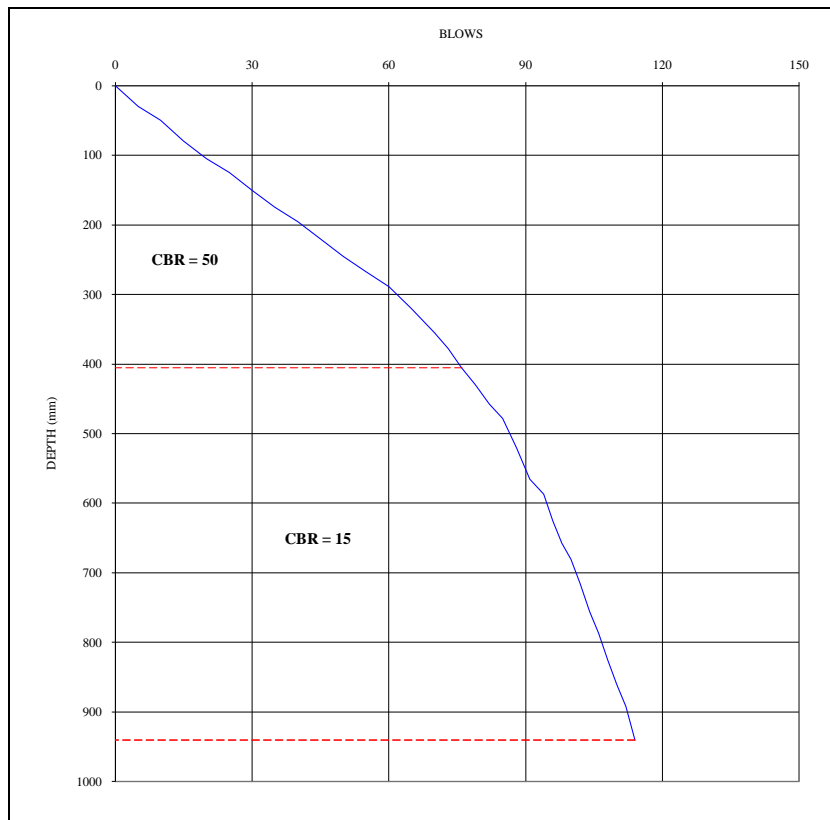
**Figure B-273 DCP Profile**



Location: Km 55+750, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 274**

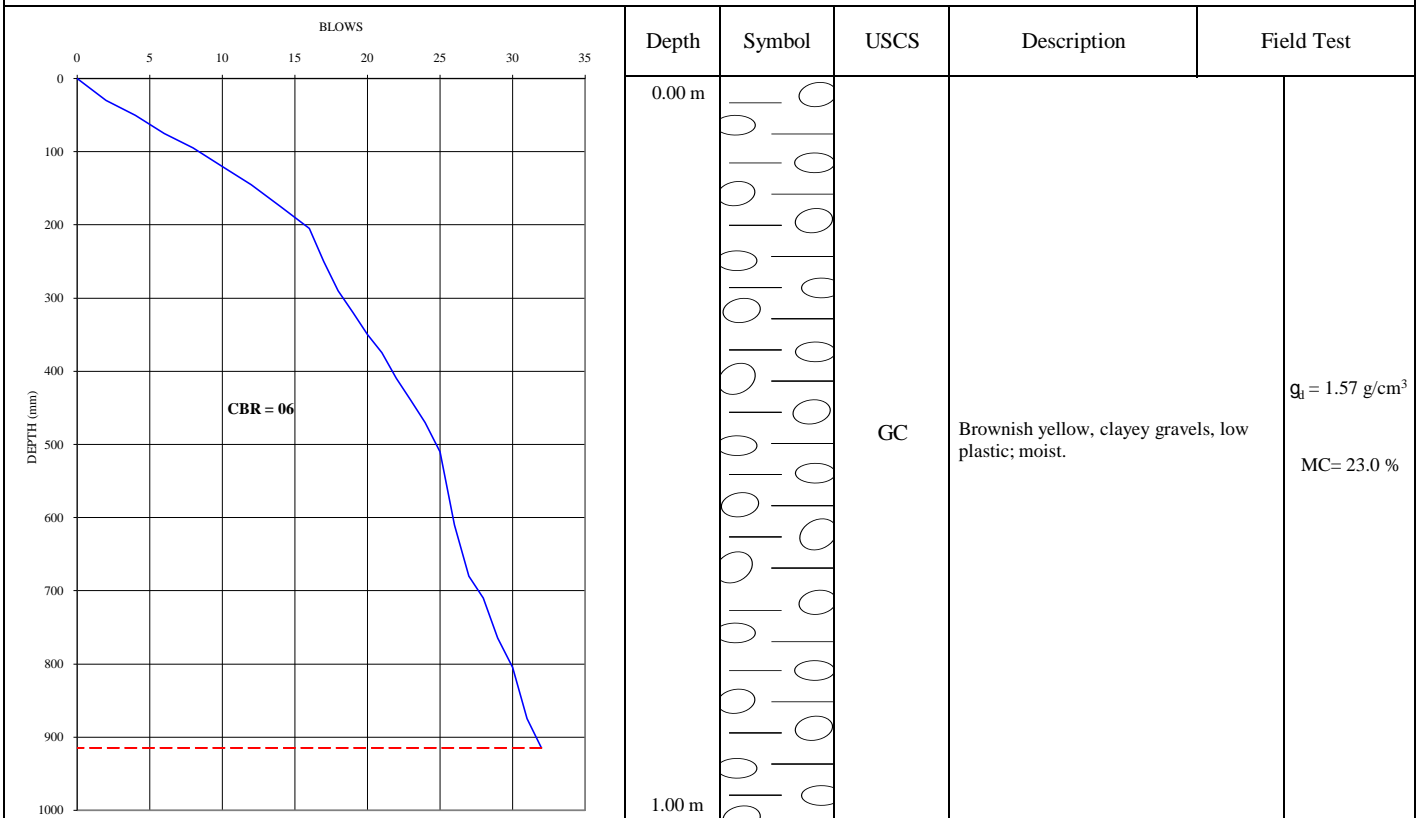
**Figure B-274 DCP Profile**



Location: Km 56+010 Rt/7.00 m

Depth: 0.00m - 1.00 m

Date : 17/08/2017



DCP Test No. 275

Test Pit No. 72

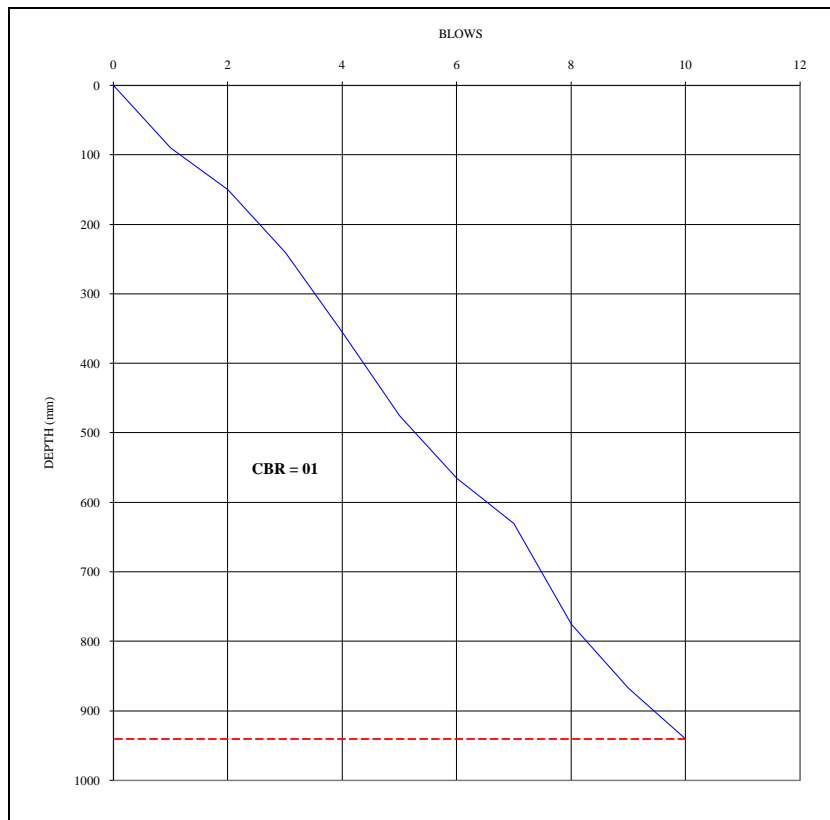
Figure B-275 DCP Profile and Test Pit Log



Location: Km 56+000, Lt/7.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 276**

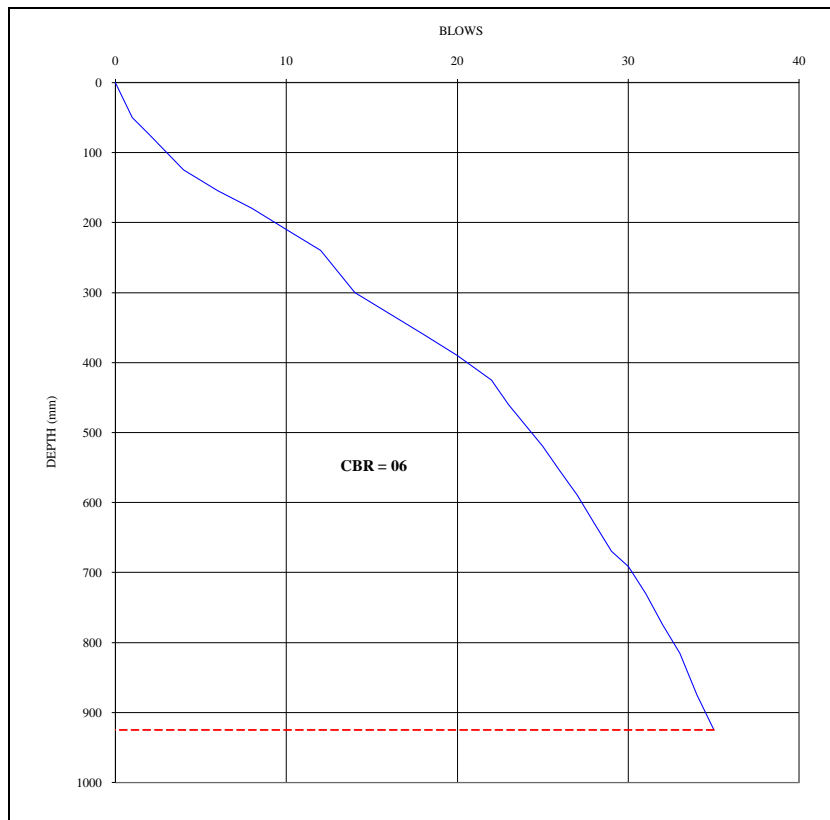
**Figure B-276 DCP Profile**



Location: Km 56+250, Rt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 277**

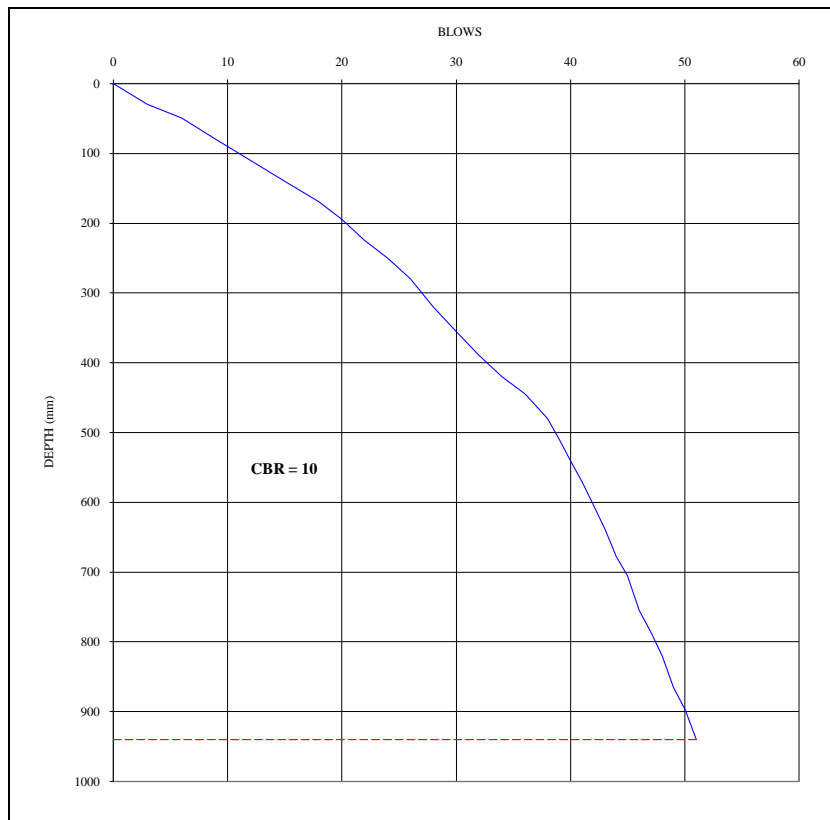
**Figure B-277 DCP Profile**



Location: Km 56+500, Lt/5.00 m

Depth: 0.00 m - 1.00 m

Date : 16/08/2017



**DCP Test No. 278**

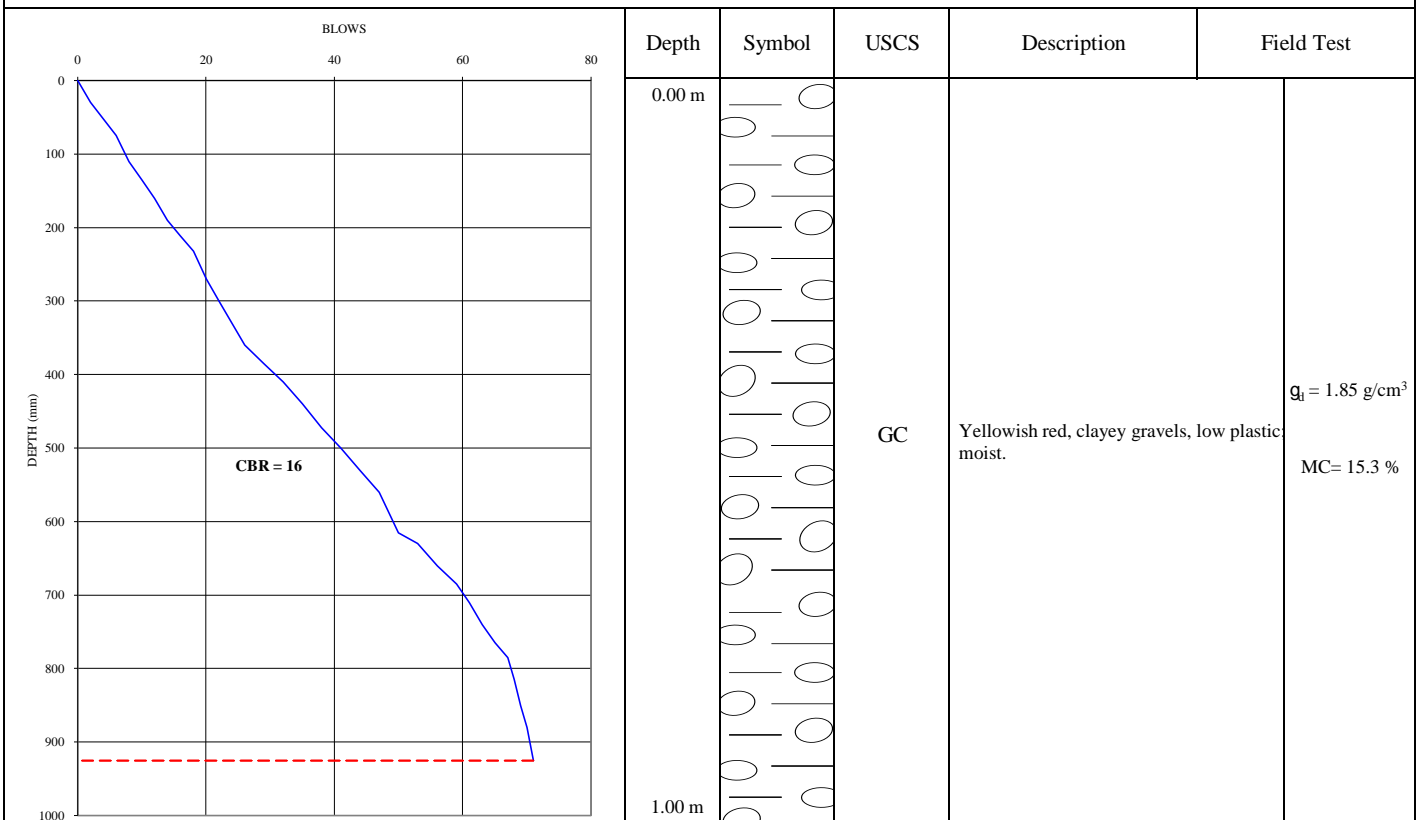
**Figure B-278 DCP Profile**



Location: Km 56+772.6 Rt/5.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 279

Test Pit No. 73

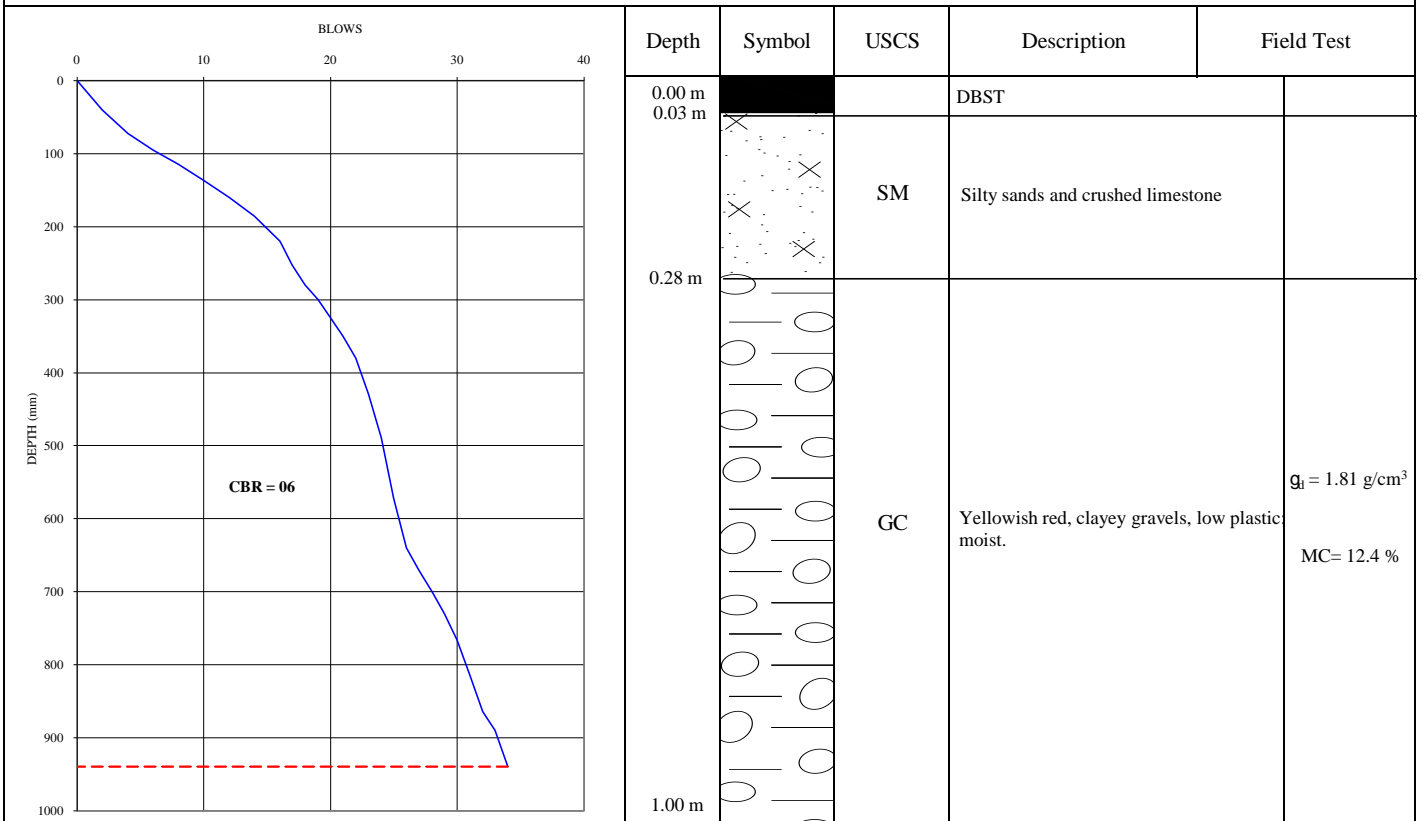
Figure B-279 DCP Profile and Test Pit Log



Location: Km 56+772.6 Lt/8.00 m

Depth: 0.00m - 1.00 m

Date : 16/08/2017



DCP Test No. 280

Test Pit No. 74

Figure B-280 DCP Profile and Test Pit Log

<b>10.</b>	<b>APPENDIX C</b>	<b>PAVEMENT AND SUB-SURFACE INVENTORY</b>
	Table C - 1 to C - 2	Benkelman Beam Measurement Form
	Table C - 1 to C - 29	Pavement and Sub-Surface Inventory
	Figure C -1	Benkelman Beam Test Results

Road No: 13 N

**BENKELMAN BEAM MEASUREMENT FORM**

Km From :		0+000		Km To :		57+200		Lane :		Right		Date :		14-19/08/2017	
Chainage km+m	Gauge reading inner wheel						Gauge reading outer wheel						Pavement condition		
	Initial	Max	Interim	Distance m	Final	Deflection (mm)	Initial	Max	Interim	Distance m	Final	Deflection (mm)			
0+000	0	0.12	2.7	9	0.03	<b>1.40</b>	0	0.07	2.7	9	0.01	<b>0.85</b>	6		
1+000	0	0.16	2.7	9	0.03	<b>2.01</b>	0	0.12	2.7	9	0.01	<b>1.77</b>	5		
2+000	0	0.04	2.7	9	0.00	<b>0.55</b>	0	0.07	2.7	9	0.01	<b>0.98</b>	0		
3+000	0	0.08	2.7	9	0.01	<b>1.07</b>	0	0.11	2.7	9	0.04	<b>1.16</b>	5		
4+000	0	0.06	2.7	9	0.00	<b>0.98</b>	0	0.07	2.7	9	0.00	<b>1.04</b>	0		
5+000	0	0.04	2.7	9	-0.01	<b>0.73</b>	0	0.08	2.7	9	0.02	<b>0.85</b>	6		
6+000	0	0.06	2.7	9	0.01	<b>0.85</b>	0	0.07	2.7	9	0.02	<b>0.73</b>	0		
7+000	0	0.07	2.7	9	0.00	<b>0.98</b>	0	0.11	2.7	9	0.02	<b>1.46</b>	6		
8+000	0	0.12	2.7	9	0.06	<b>0.98</b>	0	0.10	2.7	9	0.00	<b>1.52</b>	6		
9+000	0	0.08	2.7	9	0.01	<b>0.98</b>	0	0.08	2.7	9	0.01	<b>1.16</b>	6		
10+000	0	0.06	2.7	9	0.00	<b>0.85</b>	0	0.09	2.7	9	0.01	<b>1.16</b>	6		
11+000	0	0.12	2.7	9	0.02	<b>1.52</b>	0	0.13	2.7	9	0.02	<b>1.65</b>	1		
12+000	0	0.08	2.7	9	0.02	<b>0.85</b>	0	0.10	2.7	9	0.01	<b>1.40</b>	6		
13+000	0	0.06	2.7	9	0.00	<b>0.85</b>	0	0.12	2.7	9	0.03	<b>1.40</b>	6		
14+000	0	0.10	2.7	9	0.01	<b>1.40</b>	0	0.08	2.7	9	0.00	<b>1.10</b>	1		
15+000	0	0.10	2.7	9	0.01	<b>1.40</b>	0	0.11	2.7	9	0.02	<b>1.40</b>	5		
16+000	0	0.07	2.7	9	0.00	<b>0.98</b>	0	0.09	2.7	9	0.02	<b>1.04</b>	5		
17+000	0	0.06	2.7	9	0.01	<b>0.79</b>	0	0.05	2.7	9	0.00	<b>0.79</b>	6		
18+000	0	0.08	2.7	9	0.00	<b>1.16</b>	0	0.08	2.7	9	-0.01	<b>1.28</b>	5		
19+000	0	0.08	2.7	9	0.01	<b>1.10</b>	0	0.12	2.7	9	-0.04	<b>2.44</b>	6		
20+000	0	0.08	2.7	9	0.01	<b>1.10</b>	0	0.08	2.7	9	0.01	<b>0.98</b>	5		
21+000	0	0.08	2.7	9	0.01	<b>1.16</b>	0	0.10	2.7	9	0.01	<b>1.34</b>	6		
22+000	0	0.08	2.7	9	-0.01	<b>1.34</b>	0	0.08	2.7	9	0.01	<b>1.10</b>	6		
23+000	0	0.06	2.7	9	0.00	<b>0.91</b>	0	0.05	2.7	9	0.00	<b>0.73</b>	6		
24+000	0	0.04	2.7	9	-0.01	<b>0.73</b>	0	0.06	2.7	9	0.00	<b>0.98</b>	6		
25+000	0	0.10	2.7	9	-0.04	<b>2.19</b>	0	0.07	2.7	9	0.00	<b>1.16</b>	3		
26+000	0	0.06	2.7	9	0.00	<b>0.98</b>	0	0.07	2.7	9	0.00	<b>1.10</b>	6		
27+000	0	0.05	2.7	9	0.00	<b>0.79</b>	0	0.05	2.7	9	-0.01	<b>0.85</b>	0		
28+000	0	0.06	2.7	9	0.00	<b>0.85</b>	0	0.07	2.7	9	0.00	<b>0.98</b>	6		
29+000	0	0.08	2.7	9	0.01	<b>0.98</b>	0	0.08	2.7	9	0.00	<b>1.16</b>	3		
30+000	0	0.07	2.7	9	0.00	<b>0.98</b>	0	0.07	2.7	9	0.00	<b>1.10</b>	6		
31+000	0	0.09	2.7	9	0.00	<b>1.28</b>	0	0.08	2.7	9	0.04	<b>0.61</b>	1		
32+000	0	0.08	2.7	9	0.01	<b>1.10</b>	0	0.08	2.7	9	0.04	<b>0.67</b>	1		
33+000	0	0.06	2.7	9	0.01	<b>0.85</b>	0	0.06	2.7	9	-0.01	<b>1.04</b>	6		
34+000	0	0.10	2.7	9	0.00	<b>1.65</b>	0	0.16	2.7	9	0.04	<b>1.89</b>	5		
35+000	0	0.05	2.7	9	0.00	<b>0.73</b>	0	0.07	2.7	9	0.00	<b>1.16</b>	0		
36+000	0	0.05	2.7	9	0.00	<b>0.67</b>	0	0.08	2.7	9	0.02	<b>0.91</b>	5		
37+000	0	0.06	2.7	9	0.00	<b>0.85</b>	0	0.08	2.7	9	0.00	<b>1.22</b>	5		
38+000	0	0.06	2.7	9	0.00	<b>0.91</b>	0	0.04	2.7	9	-0.04	<b>1.22</b>	5		
39+000	0	0.04	2.7	9	0.00	<b>0.61</b>	0	0.05	2.7	9	0.00	<b>0.85</b>	5		
40+000	0	0.10	2.7	9	0.08	<b>0.37</b>	0	0.05	2.7	9	0.01	<b>0.61</b>	5		
41+000	0	0.10	2.7	9	0.00	<b>1.40</b>	0	0.10	2.7	9	0.00	<b>1.46</b>	5		
42+000	0	0.05	2.7	9	0.00	<b>0.67</b>	0	0.06	2.7	9	0.00	<b>0.91</b>	5		
43+000	0	0.05	2.7	9	0.00	<b>0.79</b>	0	0.05	2.7	9	-0.01	<b>0.91</b>	5		
44+000	0	0.14	2.7	9	0.03	<b>1.58</b>	0	0.13	2.7	9	0.04	<b>1.40</b>	5		
45+000	0	0.05	2.7	9	-0.01	<b>0.85</b>	0	0.09	2.7	9	0.00	<b>1.34</b>	5		
46+000	0	0.08	2.7	9	0.01	<b>0.98</b>	0	0.11	2.7	9	0.03	<b>1.16</b>	5		
47+000	0	0.06	2.7	9	0.00	<b>0.79</b>	0	0.06	2.7	9	0.02	<b>0.61</b>	5		
48+000	0	0.04	2.7	9	0.00	<b>0.55</b>	0	0.06	2.7	9	0.00	<b>0.98</b>	5		
49+000	0	0.05	2.7	9	0.00	<b>0.67</b>	0	0.06	2.7	9	-0.01	<b>0.98</b>	6		
50+000	0	0.08	2.7	9	0.04	<b>0.67</b>	0	0.07	2.7	9	-0.01	<b>1.16</b>	5		
51+000	0	0.09	2.7	9	0.00	<b>1.34</b>	0	0.09	2.7	9	-0.01	<b>1.52</b>	1.5		
52+000	0	0.04	2.7	9	-0.02	<b>0.85</b>	0	0.10	2.7	9	0.03	<b>1.10</b>	0		
53+000	0	0.08	2.7	9	0.00	<b>1.22</b>	0	0.09	2.7	9	0.00	<b>1.40</b>	5		
54+000	0	0.05	2.7	9	0.00	<b>0.73</b>	0	0.06	2.7	9	0.00	<b>0.91</b>	6		
55+000	0	0.04	2.7	9	0.00	<b>0.55</b>	0	0.06	2.7	9	0.00	<b>0.91</b>	6		
56+000	0	0.06	2.7	9	0.01	<b>0.79</b>	0	0.08	2.7	9	0.02	<b>0.85</b>	5		
57+000	0	0.02	2.7	9	0.00	<b>0.30</b>	0	0.04	2.7	9	0.01	<b>0.43</b>	0		
57+200	0	0.01	2.7	9	0.01	<b>0.06</b>	0	0.02	2.7	9	0.01	<b>0.18</b>	0		

Pavement condition:

1: Intact

2: Cracked

3: Alligator Cracking

Table C- 1 Benkelman Beam Measurement Form

Road No: 13 N

**BENKELMAN BEAM MEASUREMENT FORM**

Km From :		0+000		Km To :		57+215		Lane :		Left		Date :		14-19/08/2017	
Chainage km+m	Gauge reading inner wheel						Gauge reading outer wheel						Pavement condition		
	Initial	Max	Interim	Distance m	Final	Deflection (mm)	Initial	Max	Interim	Distance m	Final	Deflection (mm)			
0+050	0	0.08	2.7	9	-0.02	<b>1.46</b>	0	0.14	2.7	9	0.04	<b>1.58</b>	3		
1+030	0	0.09	2.7	9	0.01	<b>1.22</b>	0	0.08	2.7	9	0.02	<b>0.98</b>	5		
2+040	0	0.06	2.7	9	0.02	<b>0.55</b>	0	0.06	2.7	9	0.02	<b>0.61</b>	0		
3+025	0	0.08	2.7	9	0.01	<b>1.16</b>	0	0.08	2.7	9	0.01	<b>1.10</b>	5		
4+030	0	0.06	2.7	9	0.00	<b>0.91</b>	0	0.06	2.7	9	0.00	<b>0.91</b>	0		
5+035	0	0.04	2.7	9	0.00	<b>0.67</b>	0	0.06	2.7	9	0.00	<b>1.04</b>	6		
6+030	0	0.08	2.7	9	0.01	<b>1.04</b>	0	0.08	2.7	9	0.01	<b>1.04</b>	0		
7+050	0	0.07	2.7	9	0.00	<b>1.04</b>	0	0.08	2.7	9	0.00	<b>1.16</b>	0		
8+060	0	0.11	2.7	9	0.04	<b>1.10</b>	0	0.10	2.7	9	0.02	<b>1.34</b>	6		
9+050	0	0.08	2.7	9	0.03	<b>0.67</b>	0	0.09	2.7	9	0.01	<b>1.16</b>	6		
10+025	0	0.10	2.7	9	0.03	<b>1.04</b>	0	0.08	2.7	9	0.01	<b>0.98</b>	6		
11+035	0	0.09	2.7	9	0.01	<b>1.28</b>	0	0.14	2.7	9	0.07	<b>1.10</b>	6		
12+050	0	0.07	2.7	9	0.02	<b>0.85</b>	0	0.06	2.7	9	0.01	<b>0.73</b>	6		
13+040	0	0.07	2.7	9	0.02	<b>0.73</b>	0	0.08	2.7	9	0.01	<b>1.16</b>	5		
14+050	0	0.09	2.7	9	0.04	<b>0.85</b>	0	0.08	2.7	9	0.01	<b>1.10</b>	1		
15+030	0	0.09	2.7	9	0.00	<b>1.34</b>	0	0.08	2.7	9	0.01	<b>1.10</b>	5		
16+030	0	0.10	2.7	9	0.01	<b>1.34</b>	0	0.09	2.7	9	0.01	<b>1.22</b>	5		
17+030	0	0.09	2.7	9	0.03	<b>0.98</b>	0	0.07	2.7	9	0.01	<b>0.91</b>	3		
18+020	0	0.09	2.7	9	0.02	<b>1.10</b>	0	0.08	2.7	9	0.00	<b>1.28</b>	5		
19+025	0	0.10	2.7	9	0.03	<b>1.10</b>	0	0.09	2.7	9	0.02	<b>1.16</b>	6		
20+030	0	0.09	2.7	9	0.02	<b>1.16</b>	0	0.09	2.7	9	0.01	<b>1.16</b>	5		
21+020	0	0.08	2.7	9	0.00	<b>1.22</b>	0	0.10	2.7	9	0.01	<b>1.46</b>	6		
22+025	0	0.06	2.7	9	0.02	<b>0.67</b>	0	0.06	2.7	9	0.00	<b>0.98</b>	6		
23+030	0	0.08	2.7	9	0.03	<b>0.73</b>	0	0.05	2.7	9	0.01	<b>0.61</b>	6		
24+030	0	0.09	2.7	9	0.03	<b>0.91</b>	0	0.06	2.7	9	0.00	<b>0.98</b>	6		
25+015	0	0.07	2.7	9	0.00	<b>1.04</b>	0	0.08	2.7	9	0.01	<b>1.10</b>	6		
26+020	0	0.07	2.7	9	0.01	<b>0.85</b>	0	0.06	2.7	9	0.00	<b>0.79</b>	6		
27+010	0	0.06	2.7	9	0.01	<b>0.73</b>	0	0.06	2.7	9	0.00	<b>0.79</b>	0		
28+020	0	0.08	2.7	9	0.02	<b>0.85</b>	0	0.07	2.7	9	0.01	<b>0.91</b>	6		
29+030	0	0.09	2.7	9	-0.02	<b>1.71</b>	0	0.08	2.7	9	0.01	<b>1.10</b>	6		
30+015	0	0.08	2.7	9	0.00	<b>1.10</b>	0	0.08	2.7	9	0.00	<b>1.22</b>	5		
31+020	0	0.06	2.7	9	-0.01	<b>1.04</b>	0	0.09	2.7	9	0.00	<b>1.34</b>	1		
32+025	0	0.12	2.7	9	0.04	<b>1.28</b>	0	0.10	2.7	9	0.00	<b>1.46</b>	1		
33+020	0	0.05	2.7	9	0.00	<b>0.85</b>	0	0.04	2.7	9	0.01	<b>0.55</b>	6		
34+025	0	0.11	2.7	9	0.02	<b>1.28</b>	0	0.12	2.7	9	0.01	<b>1.65</b>	5		
35+020	0	0.04	2.7	9	-0.01	<b>0.73</b>	0	0.06	2.7	9	0.00	<b>0.85</b>	6		
36+020	0	0.06	2.7	9	0.00	<b>0.85</b>	0	0.08	2.7	9	0.00	<b>1.10</b>	5		
37+010	0	0.06	2.7	9	0.00	<b>0.91</b>	0	0.06	2.7	9	0.00	<b>0.85</b>	5		
38+025	0	0.08	2.7	9	0.01	<b>0.98</b>	0	0.10	2.7	9	0.06	<b>0.49</b>	5		
39+030	0	0.04	2.7	9	0.00	<b>0.61</b>	0	0.04	2.7	9	-0.01	<b>0.67</b>	5		
40+015	0	0.07	2.7	9	0.02	<b>0.85</b>	0	0.06	2.7	9	0.00	<b>0.98</b>	5		
41+020	0	0.13	2.7	9	0.04	<b>1.34</b>	0	0.11	2.7	9	0.01	<b>1.46</b>	5		
42+010	0	0.06	2.7	9	0.00	<b>0.91</b>	0	0.05	2.7	9	0.00	<b>0.79</b>	5		
43+015	0	0.05	2.7	9	0.01	<b>0.61</b>	0	0.04	2.7	9	0.00	<b>0.49</b>	5		
44+020	0	0.05	2.7	9	0.00	<b>0.79</b>	0	0.05	2.7	9	0.00	<b>0.67</b>	5		
45+015	0	0.06	2.7	9	0.00	<b>0.91</b>	0	0.05	2.7	9	0.01	<b>0.67</b>	5		
46+015	0	0.06	2.7	9	0.02	<b>0.61</b>	0	0.06	2.7	9	0.01	<b>0.67</b>	5		
47+010	0	0.07	2.7	9	0.01	<b>0.91</b>	0	0.06	2.7	9	0.00	<b>0.91</b>	5		
48+015	0	0.05	2.7	9	0.01	<b>0.67</b>	0	0.04	2.7	9	0.00	<b>0.49</b>	5		
49+010	0	0.05	2.7	9	0.00	<b>0.73</b>	0	0.04	2.7	9	0.00	<b>0.55</b>	6		
50+015	0	0.05	2.7	9	0.00	<b>0.85</b>	0	0.05	2.7	9	0.00	<b>0.73</b>	5		
51+101	0	0.09	2.7	9	0.02	<b>1.10</b>	0	0.04	2.7	9	0.00	<b>0.55</b>	1		
52+015	0	0.11	2.7	9	0.01	<b>1.58</b>	0	0.04	2.7	9	0.01	<b>0.43</b>	0		
53+020	0	0.05	2.7	9	0.00	<b>0.85</b>	0	0.10	2.7	9	0.00	<b>1.46</b>	5		
54+010	0	0.07	2.7	9	0.02	<b>0.79</b>	0	0.06	2.7	9	0.00	<b>0.85</b>	6		
55+020	0	0.07	2.7	9	0.00	<b>1.10</b>	0	0.06	2.7	9	0.00	<b>0.85</b>	6		
56+015	0	0.05	2.7	9	0.01	<b>0.67</b>	0	0.07	2.7	9	0.00	<b>0.98</b>	5		
57+020	0	0.04	2.7	9	0.00	<b>0.55</b>	0	0.04	2.7	9	0.00	<b>0.49</b>	0		
57+215	0	0.02	2.7	9	0.01	<b>0.18</b>	0	0.02	2.7	9	0.01	<b>0.12</b>	0		

Pavement condition:

1: Intact

2: Cracked

3: Alligator Cracking

Table C- 2 Benkelman Beam Measurement Form

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS	[Diagram showing road layout with test points marked]																RHS		
Chaimage			0+000	0+500				1+000				1+500				2+000					
Heavy periodic Maintenance of Pavement		mm																			
Test Pits and DCP		15	[Grid area with test pit symbols]																		
		200	[Grid area with test pit symbols]																		
		400	[Grid area with test pit symbols]																		
		600	[Grid area with test pit symbols]																		
		800	[Grid area with test pit symbols]																		
CBR at 95% of MDD (180D)		LHS	38													25			RHS		
		RHS	25																		
Degree of Compaction (DOC), %		LHS	87													68			RHS		
		RHS	88																		
pt. Moisture Content (OMC) +/- diff. in Field		LHS	9.0 -7.6													8 -19.8			RHS		
		RHS	5.5 -4.5																		
Benklement Beam Test		LHS	Left wheel 1.58 Right wheel 1.46													0.98 1.22			RHS		
		RHS	Left wheel 1.40 Right wheel 0.85													2.01 1.77					
Pavement Deterioration		Deformation		LHS	[Diagram with labels: 3H, 3M, 3H, 3M, 6+3 H, 6 M, 3H, 3M, 1+6 L, 3, 3H, 7+3]																RHS
		Disintegration		[Diagram with labels: 3H, 3M, 3H, 3M, 6+3 H, 6 M, 3H, 3M, 1+6 L, 3, 3H, 7+3]																	
		Cracks		RHS	[Diagram with labels: 3H, 3M, 3H, 3M, 6+3 H, 6 M, 3H, 3M, 1+6 L, 3, 3H, 7+3]																LHS

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 1 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																		
	RHS																		
Chaimage		2+000	2+500	3+000	3+500	4+000													
Heavy periodic Maintenance of Pavement	mm																		
Test Pits and DCP	200																		
	400																		
	600																		
	800																		
	1000																		
CBR at 95% of MDD (180D)	LHS	45																58	
	RHS	50																46	
Degree of Compaction (DOC), %	LHS	79																85	
	RHS	89																92	
pt. Moisture Content (OMC) +/- diff. in Field	LHS	7.9 -6.1																6.2 -6.8	
	RHS	5.4 -0.7																4.7 -3.4	
Benklement Beam Test	LHS	Left wheel Right wheel	0.61 0.55																
	RHS	Left wheel Right wheel	0.55 0.98																
Pavement Deterioration	Deformation	LHS	6+3(L)    3H    1+5+6(L)    8(L)    8+3(M)    3H    3H    5M																
		RHS																	
	Disintegration	SF= Surface failure PH= Pot hole																	
Cracks	RHS																		
	LHS																		

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 2 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																			
	RHS																			
Chaimage		4+000	4+500	5+000	5+500	6+000														
Heavy periodic Maintenance of Pavement	mm																			
Test Pits and DCP	200																			
	400																			
	600																			
	800																			
	1000																			
CBR at 95% of MDD (180D)	LHS	34																		5
	RHS																			
Degree of Compaction (DOC), %	LHS	70																		74
	RHS																			
pt. Moisture Content (OMC) +/- diff. in Field	LHS	5.5 -11.5																		7.5 -8.3
	RHS																			
Benklement Beam Test	LHS	Left wheel Right wheel	0.91 0.91																	1.04 0.67
	RHS	Left wheel Right wheel	0.98 1.04																	0.85 0.73
Pavement Deterioration	Deformation	LHS																		
		RHS																		
L= Low severity M= Medium severity H= High severity	Disintegration	SF= Surface failure																		
		PH= Pot hole																		
	Cracks	RHS																		
		LHS																		

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 3 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																				
	RHS																				
Chaimage		6+000	6+500	7+000	7+500	8+000															
Heavy periodic Maintenance of Pavement	mm																				
Test Pits and DCP	200																				
	400																				
	600																				
	800																				
	1000																				
CBR at 95% of MDD (180D)	LHS	18													5						
	RHS	20																			
Degree of Compaction (DOC), %	LHS	83													76						
	RHS	89																			
pt. Moisture Content (OMC) +/- diff. in Field	LHS	9.8 -8.4													12.2 -10.8						
	RHS	7.7 0.1																			
Benklement Beam Test	LHS	Left wheel Right wheel	1.04 1.04													1.16 1.04					
	RHS	Left wheel Right wheel	0.85 0.73													0.98 1.46					
Pavement Deterioration	Deformation	LHS																			
		RHS																			
	Disintegration	SF= Surface failure PH= Pot hole																			
Cracks	RHS																				
	LHS																				

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 4 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS	[Diagram showing road layout with test pit and DCP symbols]																RHS	
Chainage			8+000	8+500				9+000				9+500				10+000				
Heavy periodic Maintenance of Pavement		mm																		
Test Pits and DCP		30	[Grid area with test pit symbols]																	
		200	[Grid area with test pit symbols]																	
		400	[Grid area with test pit symbols]																	
		600	[Grid area with test pit symbols]																	
		800	[Grid area with test pit symbols]																	
		1000	[Grid area with test pit symbols]																	
CBR at 95% of MDD (180D)		LHS	4													12			18	
		RHS	39																30	
Degree of Compaction (DOC), %		LHS	79													73			89	
		RHS	93																89	
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	9.6 -11.3													8.9 -14.8			8.3 -3.2	
		RHS	7.6 -1.1																7.4 1.4	
Benklement Beam Test	LHS	Left wheel Right wheel	1.34 1.10													1.16 0.67				
	RHS	Left wheel Right wheel	0.98 1.52													0.98 1.16				
Pavement Deterioration	Deformation	LHS	[Diagram showing deformation symbols: 3H, 6M, 8+4 M, 3M, 6+5 M, 5 M]																	
		RHS	[Diagram showing deformation symbols: 3]																	
	Disintegration	SF= Surface failure PH= Pot hole																		
Cracks		RHS																		
		LHS																		

SYMBOLS:




-  TEST PIT
-  DCP (DYNAMIC CONE PENETRATION) TEST
-  BITUMEN TREATED AGGREGATE

Table C- 5 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

<b>Plan</b>		LHS																																			
		RHS																																			
Chaimage <input type="checkbox"/>			10+000	10+500	11+000	11+500	12+000																														
Heavy periodic Maintenance of Pavement <input type="checkbox"/>																																					
Test Pits and DCP			mm																																		
			200																																		
			400																																		
			600																																		
			800																																		
			1000																																		
CBR at 95% of MDD (180D) <input type="checkbox"/>			LHS																																		
			RHS																																		
Degree of Compaction (DOC), % <input type="checkbox"/>			LHS																																		
			RHS																																		
Opt. Moisture Content (OMC) +/- diff. in Field			LHS																																		
			RHS																																		
Benklement Beam Test <input type="checkbox"/>			LHS	Left wheel Right wheel											1.10 1.82																						
			RHS	Left wheel Right wheel											1.52 1.65																						
Pavement Deterioration  <input type="checkbox"/> L= Low severity <input type="checkbox"/> M= Medium severity <input type="checkbox"/> H= High severity			Deformation		LHS																																
					RHS																																
			Disintegration <input type="checkbox"/>		RHS																																
					LHS																																

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 6 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																				
		RHS																				
Chaimage			12+000	12+500	13+000	13+500	14+000															
Heavy periodic Maintenance of Pavement		mm																				
Test Pits and DCP		30																				
		200																				
		400																				
		600																				
		800																				
		1000																				
CBR at 95% of MDD (180D)		LHS	7											6								
		RHS	35																			
Degree of Compaction (DOC), %		LHS	88											78								
		RHS	76																			
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	19.4	-3.9											8.3	-1.1						
		RHS	7.7	-2.1																		
Benklement Beam Test		LHS	Left wheel	0.73											1.16							
		RHS	Right wheel	0.85											0.73							
			Left wheel	0.85											0.85							
			Right wheel	1.40											1.40							
Pavement Deterioration		Deformation		LHS																		
		Disintegration		RHS																		
		Cracks		RHS																		
				LHS																		

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 7 Pavement And Sub-Surface Inventory

Plan		LHS																					
		RHS																					
Chaimage			14+000	14+500				15+000				15+500				16+000							
Heavy periodic Maintenance of Pavement		mm	Top soil																				
Test Pits and DCP		180																					
		200																					
		400																					
		600																					
		800																					
		1000																					
CBR at 95% of MDD (180D)		LHS	18													8							
		RHS	27																				
Degree of Compaction (DOC), %		LHS	76													77							
		RHS	90																				
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	7.9	-9.2												7.5				-3.7			
		RHS	6.4	-3.1																			
Benklement Beam Test	LHS	Left wheel	1.10													1.10							
	RHS	Right wheel	0.85													1.34							
		LHS	Left wheel	1.40													1.40						
		RHS	Right wheel	1.10													1.40						
Pavement Deterioration	Deformation	LHS																					
		RHS																					
	Disintegration	SF= Surface failure PH= Pot hole																					
		Cracks																					
		LHS																					

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 8 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																			
		RHS																			
Chaimage			16+000	16+500	17+000	17+500	18+000														
Heavy periodic Maintenance of Pavement		mm																			
Test Pits and DCP																					
		200																			
		400																			
		600																			
		800																			
		1000																			
CBR at 95% of MDD (180D)		LHS	7											4							
		RHS	39 15																		
Degree of Compaction (DOC), %		LHS	73											71							
		RHS	85 78																		
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	7.2 -12.1											6.9 -16.8							
		RHS	5.1 -10.2																		
			6.6 -11.0																		
Benklement Beam Test		LHS	Left wheel Right wheel	1.22 1.34											0.91 0.98						
		RHS	Left wheel Right wheel	0.98 1.04											0.79 0.79						
Pavement Deterioration		Deformation		LHS																	
		Disintegration		RHS																	
		Cracks		RHS																	
		LHS																			

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 9 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																	
		RHS																	
Chaimage			18+000	18+500	19+000	19+500	20+000												
Heavy periodic Maintenance of Pavement		mm																	
Test Pits and DCP		200																	
		400																	
		600																	
		800																	
		1000																	
CBR at 95% of MDD (180D)		LHS	18											21					
		RHS	38																
Degree of Compaction (DOC), %		LHS	75											76					
		RHS	84																
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	8.4 -11.3											8.0 -9.1					
		RHS	7.0 -9.9																
Benklement Beam Test	LHS	Left wheel Right wheel	1.28 1.10											1.16 1.10					
	RHS	Left wheel Right wheel	1.16 1.28											1.10 2.44					
Pavement Deterioration	Deformation	LHS																	
		RHS																	
	Disintegration	SF= Surface failure PH= Pot hole																	
Cracks		RHS																	
		LHS																	

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 10 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																				
	RHS																				
Chainage		20+000	20+500	21+000	21+500	22+000															
Heavy periodic Maintenance of Pavement	mm																				
Test Pits and DCP	150																				
	200																				
	400																				
	600																				
	800																				
CBR at 95% of MDD (180D)	LHS	28													10						
	RHS	30																			
Degree of Compaction (DOC), %	LHS	71													71						
	RHS	70																			
Opt. Moisture Content (OMC) +/- diff. in Field	LHS	7.5 -12.9													7.8 -12.0						
	RHS	6.7 -10.3																			
Benklement Beam Test	LHS	Left wheel Right wheel	1.16 1.16													1.46 1.22					
	RHS	Left wheel Right wheel	1.10 0.98													1.16 1.34					
Pavement Deterioration	Deformation	LHS																			
		RHS																			
	Disintegration	SF= Surface failure PH= Pot hole																			
Cracks	RHS																				
	LHS																				

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 11 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																							
		RHS																							
Chaimage			22+000	22+500	23+000	23+500	24+000																		
Heavy periodic Maintenance of Pavement		mm																							
Test Pits and DCP																									
		200																							
		400																							
		600																							
		800																							
		1000																							
CBR at 95% of MDD (180D)		LHS	8											10											
		RHS	28																						
Degree of Compaction (DOC), %		LHS	74											72											
		RHS	93																						
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	7.7	-10.4											7.5	-11.4									
		RHS	7.8	1.1																					
Benklement Beam Test	LHS	Left wheel	0.98											0.61											
	RHS	Right wheel	0.67											0.73											
			Left wheel	1.34											0.91										
			Right wheel	1.10											0.73										
Pavement Deterioration	Deformation	LHS	1+3+5 H													6+3 H		1+3H		3 H		3		1 H	
		RHS																							
Disintegration	SF= Surface failure																								
	PH= Pot hole																								
Cracks	RHS																								
	LHS																								

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 12 Pavement And Sub-Surface Inventory

Plan		LHS																		
		RHS																		
Chaimage			24+000	24+500	25+000	25+500	26+000													
Heavy periodic Maintenance of Pavement		mm																		
Test Pits and DCP		160																		
		200																		
		400																		
		600																		
		800																		
		1000																		
CBR at 95% of MDD (180D)		LHS	29													13				
		RHS	29																	
Degree of Compaction (DOC), %		LHS	35													77				
		RHS	83																	
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	11.8 -1.6													8.7 -8.0				
		RHS	6.9 -1.2																	
Benklement Beam Test		LHS	Left wheel 0.98 Right wheel 0.91													1.10 1.04				
		RHS	Left wheel 0.73 Right wheel 0.98													2.19 1.16				
Pavement Deterioration		Deformation		LHS																
		Disintegration		RHS																
		Cracks		RHS																
		LHS																		

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 13 Pavement And Sub-Surface Inventory

## PAVEMENT AND SUB-SURFACE INVENTORY

<b>Plan</b>		LHS																	RHS							
Chaimage <input type="checkbox"/>			26+000				26+500				27+000				27+500				28+000							
Heavy periodic Maintenance of Pavement <input type="checkbox"/>		mm																								
Test Pits and DCP																										
		200																								
		400																								
		600																								
		800																								
		1000																								
CBR at 95% of MDD (180D) <input type="checkbox"/>		LHS	12																10							
		RHS	26																							
Degree of Compaction (DOC), % <input type="checkbox"/>		LHS	77																60							
		RHS	91																							
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	9.5 -2.9																11.1 -7.0							
		RHS	6.7 -2.0																							
Benklement Beam Test <input type="checkbox"/>	LHS	Left wheel	0.79																0.79							
	RHS	Right wheel	0.85																0.73							
			0.98																0.79							
			1.10																0.85							
Pavement Deterioration		Deformation	LHS																	RHS						
		Disintegration <input type="checkbox"/>		SF= Surface failure PH= Pot hole																						
Cracks		RHS																								
		LHS																								

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 14 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																			
		RHS																			
Chaimage			28+000	28+500				29+000				29+500				30+000					
Heavy periodic Maintenance of Pavement		mm																			
Test Pits and DCP																					
		200																			
		400																			
		600																			
		800																			
		1000																			
CBR at 95% of MDD (180D)		LHS	15													30					
		RHS	30																		
Degree of Compaction (DOC), %		LHS	76													77					
		RHS	91																		
Opt. Moisture Content (OMC) +/- diff. in Field		LHS	10.5	-8.6													8.4				-2.3
		RHS	6.8	-0.1																	
Benklement Beam Test	LHS	Left wheel	0.91													1.10					
	RHS	Right wheel	0.85																		
			0.85																		
			0.98																		
Pavement Deterioration	Deformation	LHS																			
		RHS																			
	Disintegration	SF= Surface failure																			
		PH= Pot hole																			
		Cracks																			
		RHS																			
		LHS																			

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 15 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																	
		RHS																	
Chaimage			30+000	30+500				31+000				31+500				32+000			
Heavy periodic Maintenance of Pavement		mm																	
Test Pits and DCP		30																	
		200																	
		400																	
		600																	
		800																	
		1000																	
CBR at 95% of MDD (180D)		LHS																	
		RHS	29																
Degree of Compaction (DOC), %		LHS																	
		RHS	93																
Opt. Moisture Content (OMC) +/- diff. in Field		LHS																	
		RHS	7.9	-0.5															8.5
Benklement Beam Test	LHS	Left wheel	1.22													1.34			
	RHS	Right wheel	1.10													1.04			
		LHS	Left wheel	0.98													1.28		
		RHS	Right wheel	1.10													0.61		
Pavement Deterioration	Deformation	LHS																	
		RHS																	
	Disintegration	SF= Surface failure																	
		PH= Pot hole																	
		Cracks	RHS																
			LHS																

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 16 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																																																																																																		
		RHS																																																																																																		
Chaimage			32+000	32+500	33+000	33+500	34+000																																																																																													
Heavy periodic Maintenance of Pavement		mm																																																																																																		
Test Pits and DCP		200	<table border="1"> <tr> <td rowspan="5">GC</td> <td colspan="8">[Grid]</td> <td rowspan="5">SC</td> <td colspan="8">[Grid]</td> </tr> <tr><td colspan="8">[Grid]</td><td colspan="8">[Grid]</td></tr> <tr><td colspan="8">[Grid]</td><td colspan="8">[Grid]</td></tr> <tr><td colspan="8">[Grid]</td><td colspan="8">[Grid]</td></tr> <tr><td colspan="8">[Grid]</td><td colspan="8">[Grid]</td></tr> </table>																GC	[Grid]								SC	[Grid]								[Grid]								[Grid]								[Grid]								[Grid]								[Grid]								[Grid]								[Grid]								[Grid]							
		GC																		[Grid]									SC	[Grid]																																																																						
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CBR at 95% of MDD (180D)		LHS																																																																																																		
		RHS	36																																																																																																	
Degree of Compaction (DOC), %		LHS																																																																																																		
		RHS	79																																																																																																	
Opt. Moisture Content (OMC) +/- diff. in Field		LHS																																																																																																		
		RHS	9.5	-5.4																																																																																																
Benklement Beam Test		LHS	Left wheel Right wheel	1.46 1.28												0.55 0.85																																																																																				
		RHS	Left wheel Right wheel	1.10 0.67												0.85 1.04																																																																																				
Pavement Deterioration		Deformation		LHS																																																																																																
				RHS																																																																																																
Disintegration		SF= Surface failure PH= Pot hole																																																																																																		
Cracks				RHS																																																																																																
				LHS																																																																																																

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 17 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																		
		RHS																		
Chaimage			34+000	34+500	35+000	35+500	36+000													
Heavy periodic Maintenance of Pavement		mm																		
Test Pits and DCP																				
		200																		
		400																		
		600																		
		800																		
		1000																		
CBR at 95% of MDD (180D)		LHS																		
		RHS	30																	
Degree of Compaction (DOC), %		LHS																		
		RHS	99																	
Opt. Moisture Content (OMC) +/- diff. in Field		LHS																		
		RHS	10.0	1.9																
Benklement Beam Test		LHS	Left wheel	1.65													0.85			
		RHS	Right wheel	1.28													0.73			
		LHS	Left wheel	1.65													0.73			
		RHS	Right wheel	1.89													1.16			
Pavement Deterioration		Deformation		LHS																
		Disintegration		RHS																
L= Low severity																				
M= Medium severity																				
H= High severity																				
Cracks		RHS																		
		LHS																		

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 18 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																		
		RHS																		
Chaimage			36+000	36+500	37+000	37+500	38+000													
Heavy periodic Maintenance of Pavement		mm																		
Test Pits and DCP																				
		200																		
		400																		
		600																		
		800																		
		1000																		
CBR at 95% of MDD (180D)		LHS																		
		RHS	25																	
Degree of Compaction (DOC), %		LHS																		
		RHS	82																	
Opt. Moisture Content (OMC) +/- diff. in Field		LHS																		
		RHS	9.1	-6.2																
Benklement Beam Test	LHS	Left wheel Right wheel	1.10 0.85													0.85 0.91				
	RHS	Left wheel Right wheel	0.67 0.91													0.85 1.22				
Pavement Deterioration	Deformation	LHS																		
		RHS																		
	Disintegration	SF= Surface failure PH= Pot hole																		
Cracks	RHS																			
	LHS																			

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 19 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																	
		RHS																	
Chaimage			38+000	38+500	39+000	39+500	40+000												
Heavy periodic Maintenance of Pavement		mm																	
Test Pits and DCP																			
		200																	
		400																	
		600																	
		800																	
		1000																	
CBR at 95% of MDD (180D)		LHS																	
		RHS	28																
Degree of Compaction (DOC), %		LHS																	
		RHS	96																
Opt. Moisture Content (OMC) +/- diff. in Field		LHS																	
		RHS	9.3	1.2															
Benklement Beam Test	LHS	Left wheel Right wheel	0.49 0.98													0.67 0.61			
	RHS	Left wheel Right wheel	0.91 1.22													0.61 0.85			
Pavement Deterioration	Deformation	LHS																	
		RHS																	
	Disintegration	SF= Surface failure PH= Pot hole																	
		Cracks																	
		LHS																	

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 20 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS	[Diagram showing road layout with test pit and DCP symbols]																RHS	
Chaimage			40+000	40+500				41+000				41+500				42+000				
Heavy periodic Maintenance of Pavement		mm																		
Test Pits and DCP		200	[Grid area for test data]																	
		400																		
		600																		
		800																		
		1000																		
CBR at 95% of MDD (180D)		LHS																	18	
		RHS																		
Degree of Compaction (DOC), %		LHS																	84	
		RHS																		
Opt. Moisture Content (OMC) +/- diff. in Field		LHS																	8.5 -3.3	
		RHS																		
Benklement Beam Test		LHS	Left wheel	0.98													1.46			
		RHS	Right wheel	0.85													1.34			
		LHS	Left wheel	0.37													1.40			
		RHS	Right wheel	0.61													1.46			
Pavement Deterioration		Deformation		LHS	[Diagram with labels: 6M, 6+1M, 8M, 7H, 6+3H, 5M, 3H]															
		Disintegration		RHS	[Diagram with labels: 6M, 6+1M, 8M, 7H, 6+3H, 5M, 3H]															
		Cracks		RHS	[Diagram with labels: 6M, 6+1M, 8M, 7H, 6+3H, 5M, 3H]															
				LHS	[Diagram with labels: 6M, 6+1M, 8M, 7H, 6+3H, 5M, 3H]															

**SYMBOLS:**




-  TEST PIT
-  DCP (DYNAMIC CONE PENETRATION) TEST
-  BITUMEN TREATED AGREGATE

Table C- 21 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																		
	RHS																		
Chaimage		42+000	42+500	43+000	43+500	44+000													
Heavy periodic Maintenance of Pavement	mm																		
Test Pits and DCP																			
	200																		
	400																		
	600																		
	800																		
CBR at 95% of MDD (180D)	LHS																		
	RHS	67																	
Degree of Compaction (DOC), %	LHS																		
	RHS	92																	
Opt. Moisture Content (OMC) +/- diff. in Field	LHS																		
	RHS	6.5	-1.2																
Benklement Beam Test	LHS	Left wheel	0.79														0.49		
	RHS	Right wheel	0.91														0.61		
Pavement Deterioration	Deformation	LHS																	
		RHS																	
Disintegration	SF= Surface failure																		
	PH= Pot hole																		
Cracks	RHS																		
	LHS																		

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 22 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																				
	RHS																				
Chaimage		44+000	44+500	45+000	45+500	46+000															
Heavy periodic Maintenance of Pavement		mm																			
Test Pits and DCP	200																				
	400																				
	600																				
	800																				
	1000																				
CBR at 95% of MDD (180D)	LHS																				
	RHS	8																			
Degree of Compaction (DOC), %	LHS																				
	RHS	79																			
Opt. Moisture Content (OMC) +/- diff. in Field	LHS																				
	RHS	12.0	-6.8																		
Benklement Beam Test	LHS	Left wheel	0.67																0.67		
	RHS	Right wheel	0.79																0.91		
	LHS	Left wheel	1.58																0.85		
	RHS	Right wheel	1.40																1.34		
Pavement Deterioration	Deformation	LHS																			
		RHS																			
Disintegration	SF= Surface failure																				
	PH= Pot hole																				
Cracks	RHS																				
	LHS																				

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 23 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																			
	RHS																			
Chaimage		46+000	46+500	47+000	47+500	48+000														
Heavy periodic Maintenance of Pavement	mm																			
Test Pits and DCP	30																			
	200																			
	400																			
	600																			
	800																			
CBR at 95% of MDD (180D)	LHS															18				
	RHS	59																		
Degree of Compaction (DOC), %	LHS															91				
	RHS	68																		
Opt. Moisture Content (OMC) +/- diff. in Field	LHS															9.1	-2.4			
	RHS	7.8	-37.1																	
Benklement Beam Test	LHS	Left wheel	0.67															0.91		
	RHS	Right wheel	0.61															0.91		
Pavement Deterioration	Deformation	LHS																		
		RHS																		
Disintegration	SF= Surface failure																			
	PH= Pot hole																			
Cracks	RHS																			
	LHS																			

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 24 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan	LHS																																																																																																													
	RHS																																																																																																													
Chaimage		48+000	48+500	49+000	49+500	50+000																																																																																																								
Heavy periodic Maintenance of Pavement	mm																																																																																																													
Test Pits and DCP	200	<table border="1"> <tr> <td rowspan="5">GC</td> <td colspan="9">GC</td> <td colspan="9">SC</td> </tr> <tr><td colspan="18">[Grid]</td></tr> <tr><td colspan="18">[Grid]</td></tr> <tr><td colspan="18">[Grid]</td></tr> <tr><td colspan="18">[Grid]</td></tr> </table>																		GC	GC									SC									[Grid]																		[Grid]																		[Grid]																		[Grid]																	
	GC																				GC									SC																																																																																
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600																																																																																																														
800																																																																																																														
1000																																																																																																														
CBR at 95% of MDD (180D)	LHS																																																																																																													
	RHS	22																																																																																																												
Degree of Compaction (DOC), %	LHS																																																																																																													
	RHS	87																																																																																																												
Opt. Moisture Content (OMC) +/- diff. in Field	LHS																																																																																																													
	RHS	12.4	-2.9																																																																																																											
Benklement Beam Test	LHS	Left wheel	0.49																																																																																																											
	RHS	Right wheel	0.67																																																																																																											
	LHS	Left wheel	0.55																																																																																																											
	RHS	Right wheel	0.98																																																																																																											
Pavement Deterioration	Deformation	LHS																																																																																																												
		RHS																																																																																																												
L= Low severity M= Medium severity H= High severity	Disintegration	SF= Surface failure																																																																																																												
		PH= Pot hole																																																																																																												
	Cracks	RHS																																																																																																												
		LHS																																																																																																												

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 25 Pavement And Sub-Surface Inventory

# PAVEMENT AND SUB-SURFACE INVENTORY

Plan		LHS																			
		RHS																			
Chaimage			50+000	50+500	51+000	51+500	52+000														
Heavy periodic Maintenance of Pavement		mm																			
Test Pits and DCP																					
		200																			
		400																			
		600																			
		800																			
		1000																			
CBR at 95% of MDD (180D)		LHS														58					
		RHS	36																		
Degree of Compaction (DOC), %		LHS														94					
		RHS	90																		
Opt. Moisture Content (OMC) +/- diff. in Field		LHS														11.7	-1.9				
		RHS	9.2	-0.6																	
Benklement Beam Test	LHS	Left wheel	0.73														0.55				
	RHS	Right wheel	0.85														1.10				
		LHS	Left wheel	0.67														1.34			
		RHS	Right wheel	1.16														1.52			
Pavement Deterioration	Deformation	LHS														3 M					
		RHS														6 L	3 L	3 L	4-5 L	3+6 M	6 H
	Disintegration	SF= Surface failure																			
		PH= Pot hole																			
Cracks		RHS																			
		LHS																			

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGGREGATE

Table C- 26 Pavement And Sub-Surface Inventory



Plan	LHS																			
	RHS																			
Chaimage		54+000	54+500	55+000	55+500	56+000														
Heavy periodic Maintenance of Pavement		mm																		
Test Pits and DCP	30																			
	200																			
	400																			
	600																			
	800																			
CBR at 95% of MDD (180D)	LHS																			
	RHS	18																		
Degree of Compaction (DOC), %	LHS																			
	RHS	93																		
Opt. Moisture Content (OMC) +/- diff. in Field	LHS																			
	RHS	14.2	-4.7																	
Benklement Beam Test	LHS	Left wheel	0.85														0.85			
	RHS	Right wheel	0.79														1.10			
Pavement Deterioration	Deformation	LHS																		
		RHS																		
Disintegration	SF= Surface failure																			
	PH= Pot hole																			
Cracks	RHS																			
	LHS																			

SYMBOLS:

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 28 Pavement And Sub-Surface Inventory

## PAVEMENT AND SUB-SURFACE INVENTORY

<b>Plan</b>		LHS																	
		RHS																	
Chaimage			56+000	56+500	57+000	57+500	58+000												
Heavy periodic Maintenance of Pavement																			
Test Pits and DCP			mm																
			200																
			400																
			600																
			800																
			1000																
CBR at 95% of MDD (180D)			LHS																
			RHS	18															
Degree of Compaction (DOC), %			LHS																
			RHS	77															
Opt. Moisture Content (OMC) +/- diff. in Field			LHS																
			RHS	11.9	-11.1														
Benklement Beam Test			LHS	Left wheel 0.98												0.49	0.12		
			RHS	Right wheel 0.67												0.55	0.18		
			LHS	Left wheel 0.79												0.30	0.06		
			RHS	Right wheel 0.85												0.43	0.18		
Pavement Deterioration			LHS																
			RHS																
Disintegration			LHS																
			RHS																
Cracks			RHS																
			LHS																

**SYMBOLS:**

- TEST PIT
- DCP (DYNAMIC CONE PENETRATION) TEST
- BITUMEN TREATED AGREGATE

Table C- 29 Pavement And Sub-Surface Inventory

# Benkelman Beam Test Results

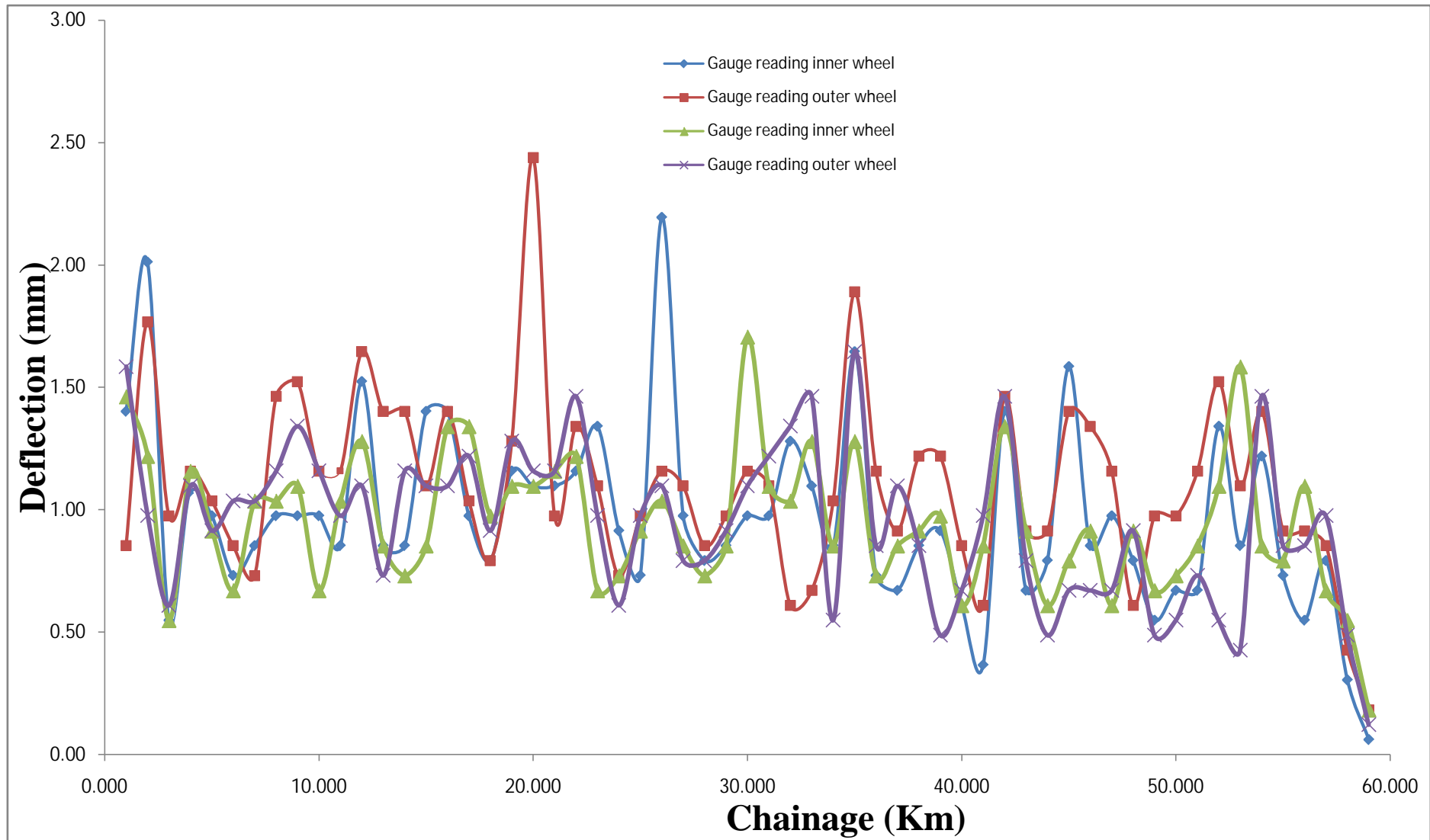


Figure C- 1 Benkelman Beam Test Results