CONCRETE CYLINDER APPLICATION GUIDE

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Publish Date: 5.10.22

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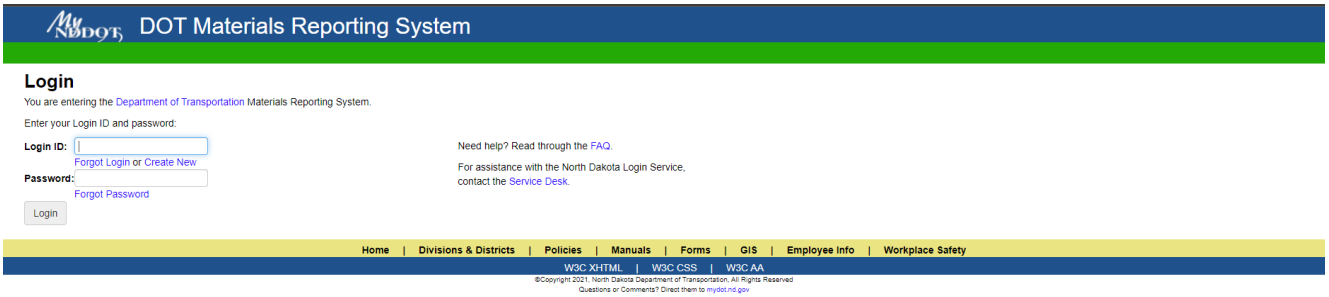


***Figure 1**- login page*

- To log in please visit *https://apps.nd.gov/dot/materialsreporting/Login*
- NDDOT employees will use their nd.gov username and password.
    - Employees are not automatically set up to use this system.
- Non-NDDOT users use an LDAP account. First time users will need to sign up for an LDAP account. *https://apps.nd.gov/itd/ldap/registration.htm?apptype=P*

Landing Page

When first logging into the application the below landing page should be visible. This is only the top of the view.

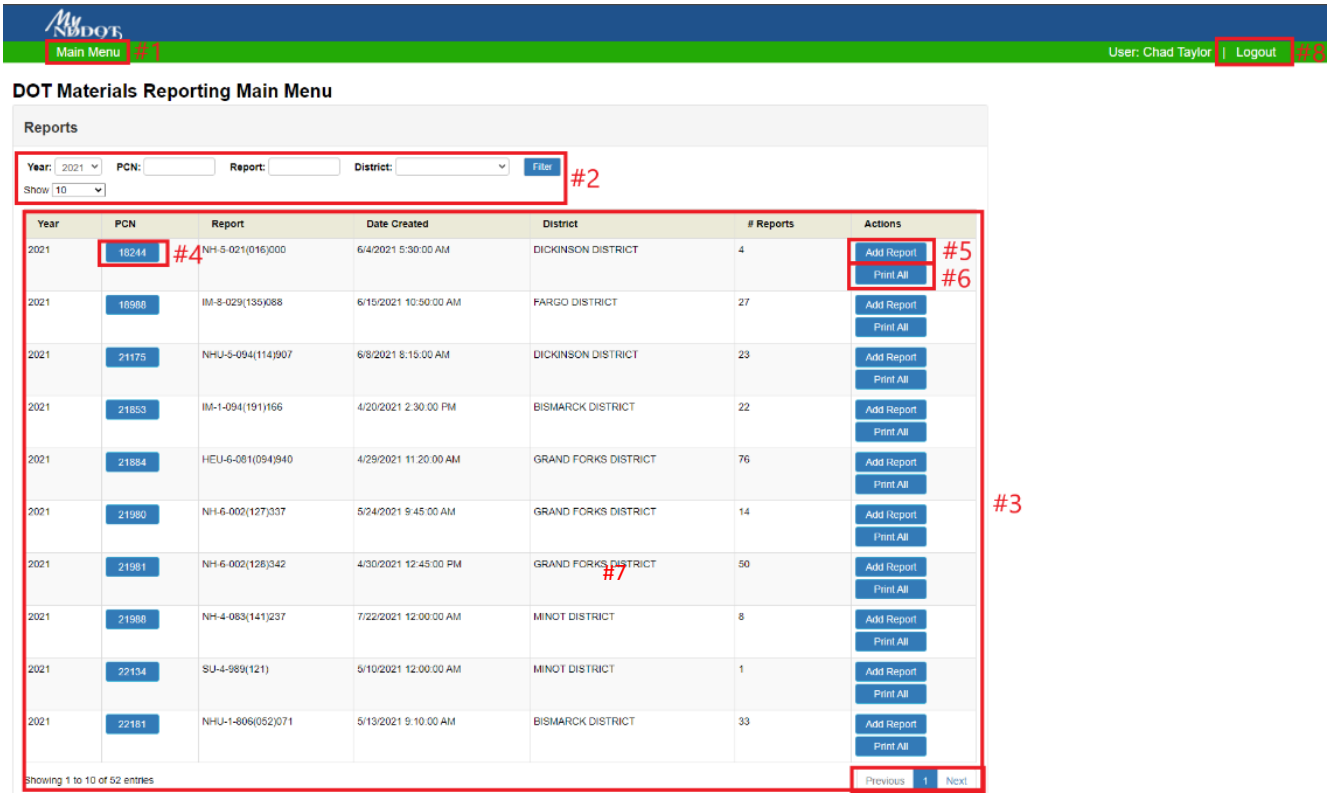


***Figure 2** - top landing page*

1. Main Menu – will bring the user back to this page.
2. Filter Options – user can filter reports based on the options provided.
3. Record List – user can view project information along with the number of reports.
4. PCN button – when selected will take the user to that project and display all reports within. See **Figure 4**.
5. Add Report – will allow user to create a report for that PCN.
6. Print All – will print all the reports for that PCN.
7. Scroll Buttons – allow user to scroll to the next list of projects.
8. Logout – allow user to logout of the application.

The Bottom of the landing page is as follows.

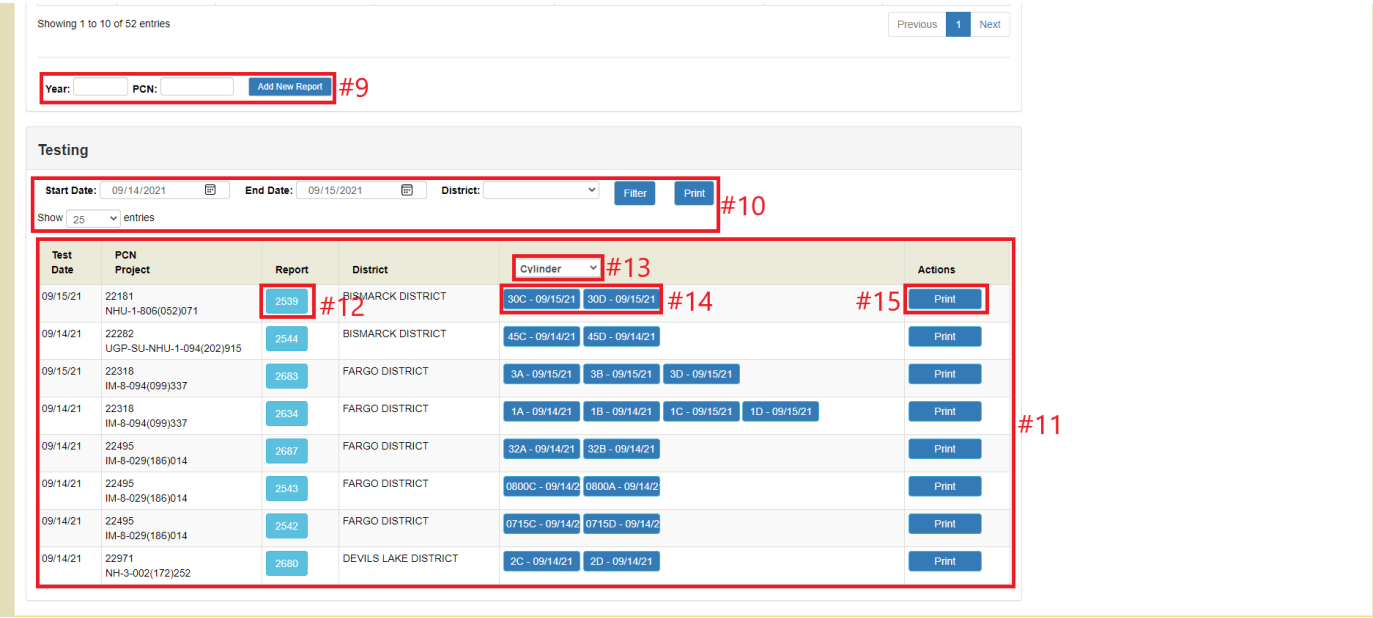


***Figure 3** - bottom landing page*

9. Add new report – user can add new report by entering the year of the project and the PCN of the project.
10. Cylinder filters – user can filter cylinders with the options provided.
11. Cylinder reports – cylinders that are due to be broke based on the filters above. This defaults to the current day and will show the user all cylinders that are due to be broke.
12. Report number – this is the report number created by the cylinder application. This is a unique number and can be used to keep track of cylinders in a cure room or cure tank. If the user clicks on this it will take them to the cylinder data page. See **Figure 7.**
13. Cylinder drop down list – this is to select cylinders or cores depending on what the user is breaking.
14. Cylinder field numbers – this is the field number for the cylinder created by the field technician. This field also has the date in which the cylinders are to be broken. If the user clicks on this it will take them to the cylinder data page. See **Figure 7**.
15. Print – when selected this will print the current report.

Project page

When clicking on a PCN from the landing page the user will be taken to the project page which contains all the reports for that project. See **Figure 4**.

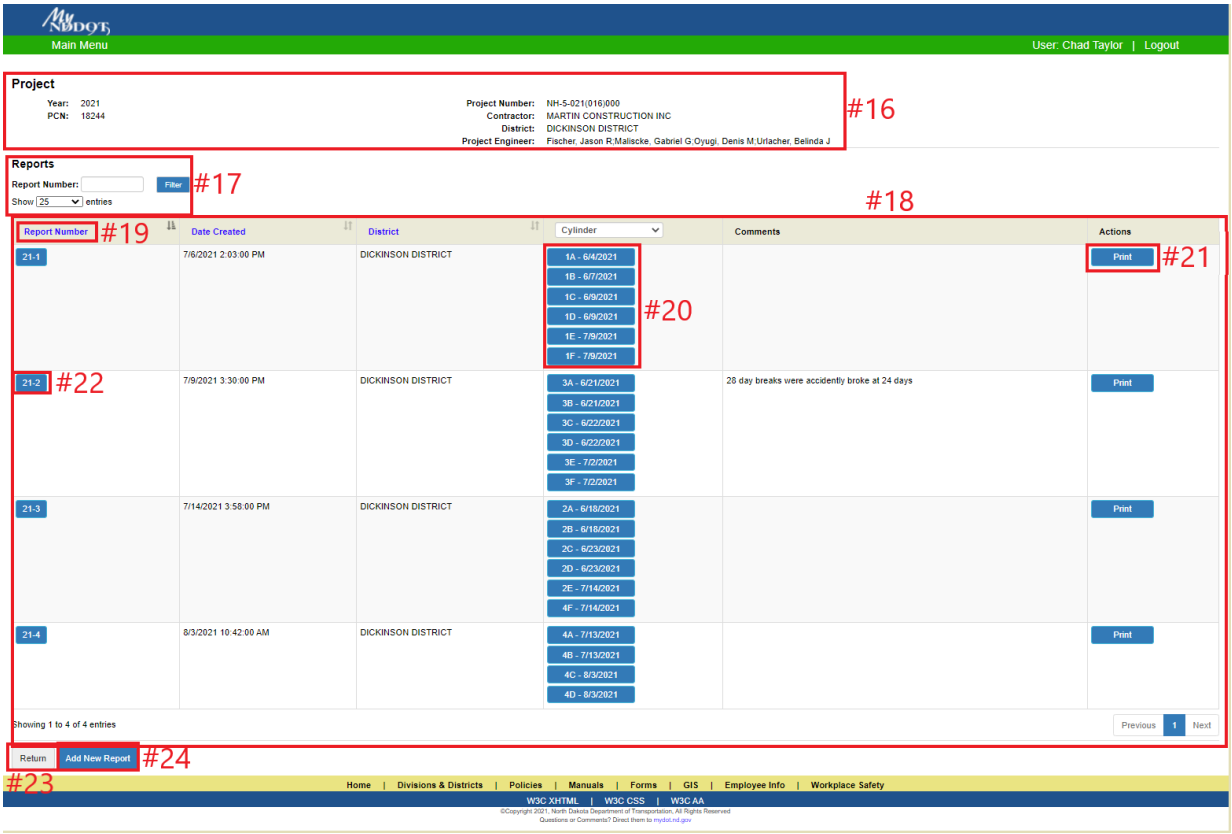


***Figure 4** - project page*

16. Project Information – this is all the project information that is pulled in from RIMS. The user is not able to change anything in this section.
17. Report search – here the user can search for a specific report number.
18. Reports – this is the display for all the reports found within the project.
19. Report headers – selecting one of these headers will sort the reports based on which header the user selects.
20. Cylinder numbers – these are the field cylinder numbers created by the field personal. Selecting one of these will take you to the cylinder data page. See **Figure 7**.
21. Print – will print the current report.
22. Report number – when the user selects this it will take them to the cylinder data page. See **Figure 7**.
23. Return – selecting this will return you to the main menu page (landing page). See **Figure 2 and Figure 3**.
24. Add new report – selecting this will create a new report for the current project. As an example, if the user were to select this from this current screen it would create a report for PCN 18244.

New report page

When the user either enters the year and PCN from the landing page or selects add new report from within the project page it will bring them to the new report page. See **Figure 5**.

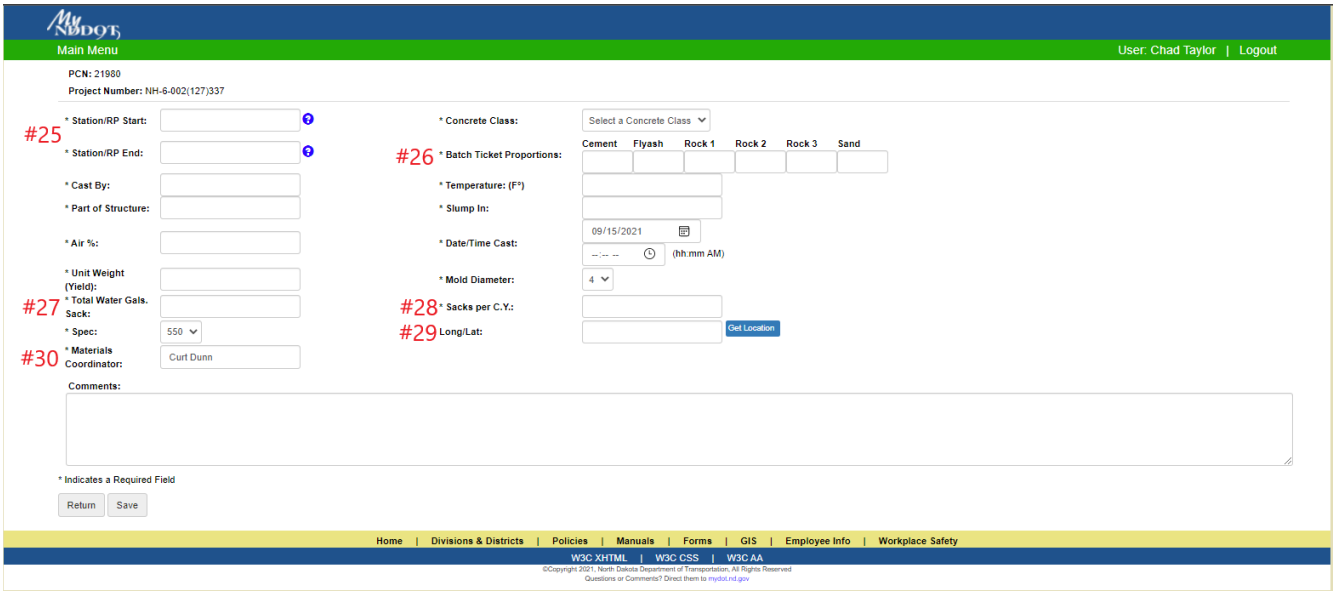
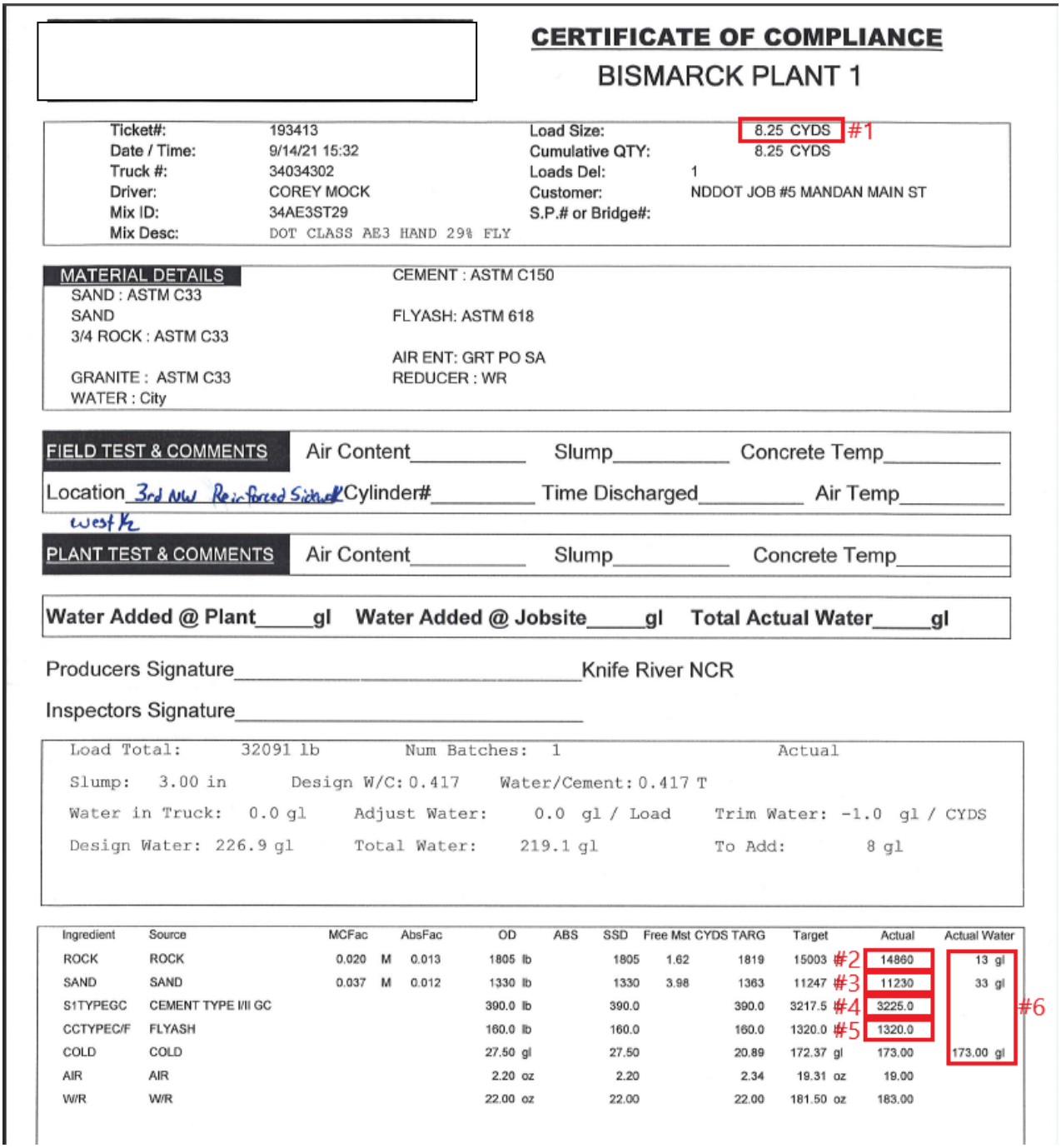


***Figure 5** - new report page*

25. Station/RP Start/End – this is setup so the user can input a station or an RP of where the test was taken. The Start is a required field, but the end is not. It is setup so if you have a station you are trying to enter the "+" will be replaced by a decimal. An example of this would be Sta. 100+00 = 100.00. RP's you would enter as you would normally would.
26. Batch ticket proportions – this is broken into all the different materials that are added to the mix. These numbers are found on the trucks batch ticket. See figure 6. To calculate each material the user will take the actual material weight (**Figure 6**- #2-5) divide that by the total CY on the truck (**Figure 6**- #1) then divide all that by the sacks per CY (**Figure 6**- #28). This will be done for each type of material. *(Video – Understanding Batch Tickets)*
27. Total water gals per sack – this number is calculated based on the batch ticket and how much water was added to the truck. See figure… the user will take water added in gallons (**Figure 6**- #6) add any additional water that was added on site then divide that number by the total CY on the truck (**Figure 6**- #1) then divide by the sacks per CY (**Figure 5**- #28).
28. Sacks per CY – this number is calculated based on the batch ticket actual weights. The user is to take the cement (**Figure 6**- #3) and the fly ash (**Figure 6**- #4) add them together and then divide by the total CY on the truck (**Figure 6**- #1). Then the user will take that number and divide by 94. The 94 comes from 94 lbs. in 1 sack of cement. This number should be around 5-7 in normal concrete mixes.
29. Long/Lat – when selected this will put in the longitude and latitude based on your location. This will only work for iPads and laptops that have locations enabled through the web browser. This should be done as close to the spot the test was taken to represent the actual location of the test.

30. Materials Coordinator – this is automatically filled in based on what district the project is in. This should not require and changes from the user but if there was a change in Materials Coordinator this should be changed to whom ever is in the position at the time of the projects start.



CERTIFICATE OF COMPLIANCE

BISMARCK PLANT 1

Ticket#:	193413	Load Size:	8.25 CYDS #1
Date / Time:	9/14/21 15:32	Cumulative QTY:	8.25 CYDS
Truck #:	34034302	Loads Del:	1
Driver:	COREY MOCK	Customer:	NDDOT JOB #5 MANDAN MAIN ST
Mix ID:	34AE3ST29	S.P.# or Bridge#:	
Mix Desc:	DOT CLASS AE3 HAND 29% FLY		

MATERIAL DETAILS

SAND : ASTM C33
SAND
3/4 ROCK : ASTM C33
GRANITE : ASTM C33
WATER : City

CEMENT : ASTM C150
FLYASH: ASTM 618
AIR ENT: GRT PO SA
REDUCER : WR

FIELD TEST & COMMENTS Air Content_____ Slump_____ Concrete Temp_____

Location 3rd NW Reinforced Sidewalk Cylinder#_____ Time Discharged_____ Air Temp_____
west ½

PLANT TEST & COMMENTS Air Content_____ Slump_____ Concrete Temp_____

Water Added @ Plant_____gl Water Added @ Jobsite_____gl Total Actual Water_____gl

Producers Signature_____Knife River NCR

Inspectors Signature_____

Load Total: 32091 lb Num Batches: 1 Actual
Slump: 3.00 in Design W/C: 0.417 Water/Cement: 0.417 T
Water in Truck: 0.0 gl Adjust Water: 0.0 gl / Load Trim Water: -1.0 gl / CYDS
Design Water: 226.9 gl Total Water: 219.1 gl To Add: 8 gl

Ingredient	Source	MCFac		AbsFac	OD		ABS	SSD	Free Mst	CYDS TARG	Target		Actual	Actual Water
ROCK	ROCK	0.020	M	0.013	1805	lb		1805	1.62	1819	15003	#2	14860	13 gl
SAND	SAND	0.037	M	0.012	1330	lb		1330	3.98	1363	11247	#3	11230	33 gl
S1TYPEGC	CEMENT TYPE I/II GC				390.0	lb		390.0		390.0	3217.5	#4	3225.0	#6
CCTYPEC/F	FLYASH				160.0	lb		160.0		160.0	1320.0	#5	1320.0	
COLD	COLD				27.50	gl		27.50		20.89	172.37	gl	173.00	173.00 gl
AIR	AIR				2.20	oz		2.20		2.34	19.31	oz	19.00	
W/R	W/R				22.00	oz		22.00		22.00	181.50	oz	183.00	

***Figure 6** - example batch ticket*

Cylinder data page

This page is to enter cylinder break data. The field technician will be the first one to add the number of cylinders, cylinder number (**Figure 7**- #33) and what days they need to break (**Figure 7**- #35).

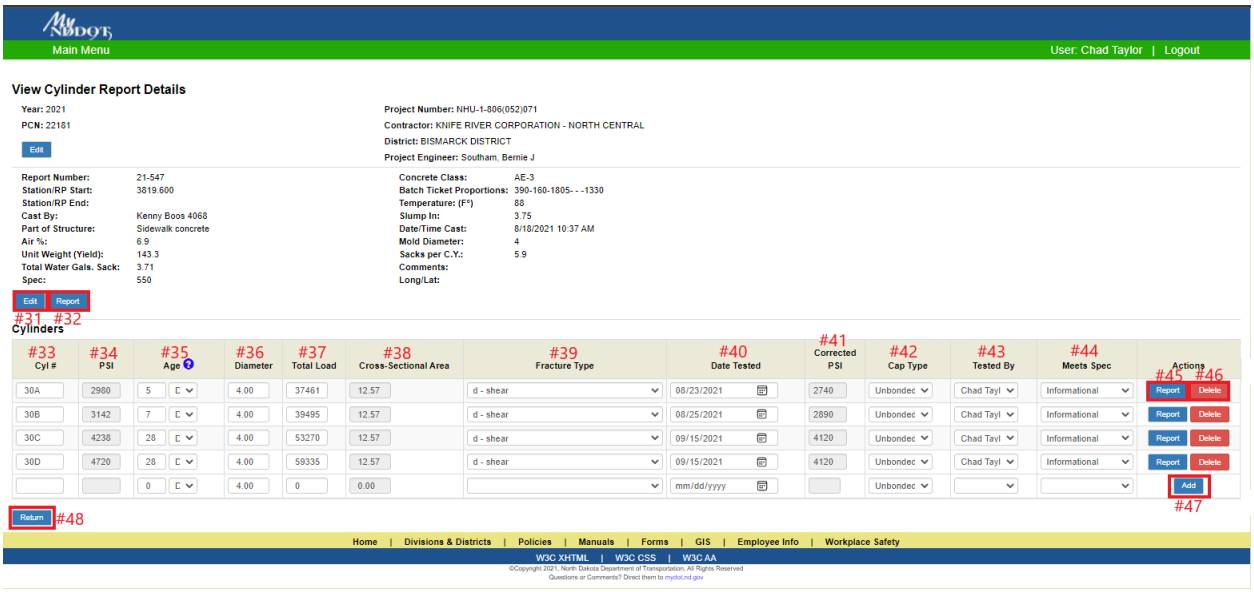


***Figure 7**- cylinder data page*

31. Edit – this is for editing the field data and adding comments to the report.
32. Report – this is for printing the report.
33. Cylinder Number – this is the field number and is created by the filed technician.
34. PSI – this is the uncorrected PSI and is automatically calculated.
35. Age – this is for entering what the age of the break that is desired. This can be entered as days or hours depending on what is required. For example, in figure… you can see that 30A is set for 5 Days. If there was a break for 30 hours, then the user would change the 5 to a 30 and the “D” to an “H” in the drop down next to the 5. Also, by entering the day or hour it will automatically calculate the date tested.
36. Diameter – this is to enter the diameter of the cylinder.
37. Total Load – this is where you enter the total uncorrected load in pounds.
38. Cross-sectional area – this is the area of the cylinder and is automatically calculated based on the diameter.
39. Fracture type – this is where you enter the fracture type of the cylinder. Please refer to AASHTO T 22 for the explanation of the fracture types.
40. Date tested – this is the date that the cylinder is to be broken. This can be set by the user or it will automatically be calculated based on the Age.
41. Corrected PSI – this is the corrected PSI for 4X8 cylinders. The correction applies a 0.92 reduction to the strength.
42. Cap type – this is to indicate what type of cap was used to break the cylinder. The neoprene pads with the retainer rings are unbound and a capping compound that adheres to the cylinder is a bounded cap.

43. Tested by – this is for the person that broke the cylinder. This list is for anyone that has been certified to break cylinders.
44. Meets Specification – this is for whether the cylinder made specified strength or not. This is more for structures that call out a specific strength at so many days and not what the mix design was designed to. Opening the road strength does not apply here due to the 550 specification that uses the cores for acceptance.
45. Report/Save – this is another place that you can print the report from. When making changes to a cylinder the report button will change to a save button. The user must save the record for any changes to take effect.
46. Delete – this is only available on cylinders that you have created. If you are not the original person and need cylinders deleted, you will have to reach out to the District Materials Coordinator to get those removed.
47. Add – this is to add a cylinder to the report. To add a cylinder the user must enter the cylinder number and age of the cylinder before clicking this button. The user may also enter more data if the cylinder has already been broken but at a minimum cylinder number and age are required.
48. Return – this will take you back to the project page not the previous page you were on. If the user wishes to go back to the main menu then they must use the main menu button at the top of the page.

Report

When all cylinders are broken, and a report is generated by pressing the report button the user then will be required to save the report as a PDF and upload to FileNet. The user can add the report to CARS material drop box. DOT district employees can use the materials drop box or Record Crawler (RC). The naming convention for the PDF should be like this: PCN_CYreportnumberyear_district. *(Example is 22145_CY422022_Devils Lake)*