



<div></div> <div></div>		PROJECT	Standby SRU & Additional Tanks IOCL Paradip Refinery		
		CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP- SITE GRADING	Project No. 080557C001	Document No. 080557C-000-QCP-1421-001		Rev. No. A	Page 1 of 3

## QUALITY CONTROL PLAN

### CIVIL WORKS





### SITE GRADING

#### REFERENCE DOCUMENTS:

- 080557C-000-PP-805 Site Co-ordination & Communication procedure
- 080557C-000-JSS-1421-001 Specifications for Site Grading
- Drawings



#### LEGENDA

H	=	HOLD (RFI required - Work stop for inspection)
W	=	WITNESS (RFI required)
WC	=	100 % SUPERVISION AND EXAMINATION BY CONTRACTOR.
P	=	PREPARATION.
S	=	SURVEILLANCE (No RFI)
R	=	REVIEW OF REPORTS
N.A.	=	NOT APPLICABLE
A	=	AUTHORIZATION / APPROVAL
IFA	=	ISSUED FOR AUTHORIZATION/APPROVAL
INFO	=	FOR INFORMATION
!	=	WARNING (control of document revision status)



			 Samit Paul 2019.10.21 18:10:57 +05'30'	 Signed By	 Approved By	 Authorized By
A	19/10/2019	ISSUED FOR INFORMATION	SMP	PKP	LA/ANJ	JMC
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	AUTHORIZED

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 	PROJECT	Standby SRU & Additional Tanks IOCL Paradip Refinery		
	CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP- SITE GRADING	Project No. 080557C001	Document No. 080557C-000-QCP-1421-001	Rev. No. A	Page 2 of 3

S.No	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	Action		NOTES
			CONTR.	TECHNIP	
A	CLEARING AND STRIPPING OF SOIL INCLUDING DISPOSAL OF UNSUITABLE	By Contractor	WC	R	
B	AVAILABILITY OF VALID CALIBRATION CERTIFICATES OF INSTRUMENTS / TESTING EQUIPMENTS.	N.A.	WC	R	
C	FIELD CALIBRATION, IF ANY	N.A.	WC	R	
D	TAKING AND PLOTTING OF INITIAL LEVELS AT SPECIFIED INTERVALS FOR CUTTING AS WELL AS FILLING AREAS	N.A.	WC	S	
E	CLASSIFICATION (LEVELS OF STRATA) AND TESTING OF FILLING SOIL FOR SUITABILITY INCLUDING PREPARATION OF LEAD CHARS TO FITTING / DISPOSAL AREAS.	N.A.	WC	S	
F	PROPER WARNING OF EXPOSIONS, MISFIRES AND STORAGE OF EXPLOSIVE MATERILS (AS APPLICABLE).	By Contractor	WC	S	
G	BREAKING UP OF CLODS, LIMPS, ETC., AT THE TIME OF FILLING AND COMPACTION.	N.A.	WC	S	
H	IDENTIFICATION AND SUITABILITY OF BORROW AREAS FOR FILLING SOIL / URRUM INCLUDING VERIFICATION OF PAYMENTS FOR ROYALTY, ETC.,	N.A.	WC	S	
I	COMPACTION TEST FOR EARTH FILLING IN SPECIFIED LAYERS INCLUDING FINISHED GRADE LEVELS.	By Contractor	WC	S	
J	VERIFICATION OF FINAL FINISHED GRADE LEVELS.	N.A.	WC	S	
K	COMPUTATION OF EARTH WORKS.	N.A.	WC	S	
L	RECORD OF TREE CUTTINGS, STACKING OF BLASTED ROCKS AND OTHER QUARRY MATERILS INCLUDING HANDING OVER TO OWNER	N.A.	WC	R	
M	PREPARATION OF "AS BUILT DRAWINGS"	N.A.	P	A	
N	REMOVAL OF SURPLUS EARTH / EXCAVATED MATERIAL AND LEVELING IN DISPOSAL AREAS.	N.A.	WC	S	
O	FINAL DOCUMENTATION REVIEW	N.A.	P	W/R	

 	<b>PROJECT</b>		<b>Standby SRU &amp; Additional Tanks</b>	
	<b>CLIENT</b>		<b>IOCL Paradip Refinery</b>	
<b>QCP- SITE GRADING</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1421-001	<b>Rev. No.</b> A	Page 3 of 3

#### GENERAL NOTES

- 1 THE ENCLOSED ITP'S ARE INDICATIVE AND SHALL BE FOLLOWED FOR DEVELOPING THEJOB SPECIFIC ITP'S FOR THE WORKS TO BE PERFORMED BY THE CONTRACTOR. THE PROVISIONS INDICATED FOR STAGE WISE INSPECTION BY TECHNIP AND OWNER (FOR SPECIFIC ACTIVITIES) ARE THE MINIMUM AND THE ENGINEER-IN- CHARGE MAY DECIDE TO INCREASE HOLD POINTS/ WITNESS POINTS, WHILE APPROVING THE JOB SPECIFIC ITP'S. ACTIVITIES FOR WHICH ITP'S ARE NOT PROVIDED IN THIS SPECIFICATION. CONTRACTOR TO DEVELOP AND GET THE SAME APPROVED BY TECHNIP/OWNER BEFORE START OF THE WORK. IN GENERAL ROLE OF TECHNIP HAS BEEN SPECIFIED IN THE DOCUMENT THE ROLE OF OWNER TO BE SPECIFIED DURING PREPARATION OF SITE SPECIFIC ITP'S.
- 2 CONTRACTOR TO SUBMIT JOB SPECIFIC REPORTING FORMATS AND JOB PROCEDURES FOR THE JOBS FOR EACH ACTIVITY LISTED IN THE ITP'S AND SUBMIT TO TECHNIP/OWNER FOR APPROVAL. BEFORE COMMENCEMENT OF THE ACTIVITY. IF THE CONTRACTOR HAS TO DEVIATE FROM THE GIVEN ITP FOR A VALID REASON, HE SHALL OBTAIN PRIOR WRITTEN APPROVAL OF TECHNIP/OWNER. CONTRACTOR TO CARRY OUT 100% EXAMINATION OF ALL ACTIVITIES.

 	<b>PROJECT</b>		<b>Standby SRU &amp; Additional Tanks IOCL Paradip Refinery</b>	
	<b>CLIENT</b>		<b>INDIAN OIL CORPORATION LIMITED</b>	
<b>QCP-EARTH MOVING</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1440-001	<b>Rev. No.</b> A	Page 1 of 4

<p align="center"><b>QUALITY CONTROL PLAN</b></p> <p align="center"><b>CIVIL WORKS</b></p> <p align="center"><b>EARTH MOVING</b></p>
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TYPE OF QUALITY CONTROL REPORT	CERTIFICATION EXTENT
W 12/A	SINGLE REPORT PER EACH MATERIAL – EACH LAYER
QC 11	SUMMARY PER EACH ITEM
CW 51 – CW 52 – CW 53- CW 61A - CW 61B	SINGLE REPORT PER EACH ITEM OR IDENTIFIED SECTION



**REFERENCE DOCUMENTS:**

- 080557C-000-PP-805      SITE CO-ORDINATION & COMMUNICATION PROCEDURE
- 080557C-000-JSS-1423-001      SPECIFICATION FOR EARTH WORKS
- Drawings

**LEGENDA**

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	CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP-EARTH MOVING	Project No. 080557C001	Document No. 080557C-000-QCP-1440-001	Rev. No. A	Page 2 of 4

**QUALITY CONTROL PLAN**  
**CIVIL WORKS**  
**EARTH MOVING <sup>(1)</sup>**

**QUALITY CONTROL ACTIVITIES**



Nr.	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTRACT.	TECHNIP	
<b>A) PRELIMINARY ACTIVITIES</b>					
A.1	CONTRACTOR DRAWINGS CHECK REVISION STATUS	N.A.	!	!	
A.2	CONTRACTOR TECHNICAL SPECIFICATION AND PROCEDURE	N.A.	!	!	
A.3	CONTRACTOR METHOD STATEMENT (IF REQUIRED)	N.A.	P	R	(2)
<b>B) BEFORE EXECUTION</b>					
B.1	QUARRY OR SITE MATERIALS APPROVAL	W 12/A	WC	INFO	(2) (3)
<b>C) GENERAL EXCAVATION</b>					
C.1	LOCATION	CW 51	WC	R	
C.2	EXCAVATION AND DEPTH	CW 51	WC	W/R	
C.3	SLOPES	CW 51	WC	W/R	
C.4	TRANSPORT OF EXCAVATED MATERIAL TO DISPOSAL AREA	CW 51	WC	R	
C.5	DRAINAGE	CW 51	WC	W/R	
C.6	COMPACTED SUBGRADE	CW 51	WC	S	
C.7	GROUND DENSITY TEST (IF REQUIRED)	QC 11 / CW 51	WC	W/R	
C.8	PLATE LOAD TEST (IF REQUIRED)	CW 51	WC	W/R	
C.9	FINAL GRADING & FINISHING	CW 51	WC	W/R	
C.10	FINAL DOCUMENTATION REVIEW	CW 51	P	R	
<b>D) EMBANKMENT</b>					
D.1	GROUND PREPARATION	CW 52	WC	S S	
D.2	LAYING MATERIAL AND COMPACTION	CW 52	WC	W/R	
D.3	GROUND DENSITY TEST (IF REQUIRED)	QC 11 / CW 52	W	W/R	
D.4	PLATE LOAD TEST (IF REQUIRED)	CW 52	WC	S	
D.5	TOP ELEVATION	CW 52	WC	S	
D.6	SLOPES (IF REQUIRED)	CW 52	WC	S	
D.7	DRAINAGE (IF REQUIRED)	CW 52	WC	S	
D.8	FINAL ROLLING AND FINISHING	CW 52	WC		

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**QUALITY CONTROL PLAN**  
**CIVIL WORKS**  
**EARTH MOVING <sup>(1)</sup>**

**QUALITY CONTROL ACTIVITIES**

Nr.	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTRACT.	TECHNIP	
D.9	FINAL DOCUMENTATION REVIEW	CW 52	P	R	
<b>E)</b>	<b>SECTION EXCAVATION</b>				
E.1	POSITION AND ROUTING	CW 61A	WC	R	
E.2	EXCAVATION & DEPTH	CW 61A	WC	W/R	
E.3	COMPACTED GROUND	CW 61A	WC	S	
E.4	GROUND DENSITY TEST (IF REQUIRED)	QC11/CW 61A	WC	W/R	
E.5	SAND BED / LEAN CONCRETE ELEVATION (IF ANY)	CW 61A CW	WC	S	
E.6	ANCHOR BLOCKS OPERATIONAL AREA CLEAR (IF ANY)	61A CW 61A	WC	W/R	
E.7	TRANSPORT OF EXCAVATED MATERIAL TO DISPOSAL AREA (IF ANY)	CW 61A	WC	S	
E.8	FINAL DOCUMENTATION REVIEW		P	R	
<b>F)</b>	<b>BACKFILLING</b>	CW 61B			
F.1	SAND COVERING (IF ANY)	CW 61B	WC	S S	
F.2	BACKFILLING	QC 11/CW 61B	WC	W/R	
F.3	GROUND DENSITY TEST (IF REQUIRED)	CW 61B	WC	S	
F.4	FINISHING WORK	CW 61B	WC	R	
F.5	FINAL DOCUMENTATION REVIEW		P		
<b>G)</b>	<b>SOIL SCRUBBING (IF ANY)</b>	CW 53		S	
G.1	LOCATION	CW 53	WC	S	
G.2	REMOVAL FROM SITE OF ANY SURFACE OBSTRUCTION AND TRANSPORT TO DISPOSAL AREA (IF ANY)		WC		
		CW 53		S S	
G.3	SOIL SCRUBBING	CW 53	WC	W/R	
G.4	TRANSPORT OF REMOVED SOIL TO INDICATED AREA	CW 53	WC	R	
G.5	FINAL GRADING	CW 53	WC		
G.6	FINAL DOCUMENTATION REVIEW		P		

 		PROJECT	Standby SRU & Additional Tanks IOCL Paradip Refinery		
		CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP-EARTH MOVING	Project No. 080557C001	Document No. 080557C-000-QCP-1440-001		Rev. No. A	Page 4 of 4

NOTES: (1) EXCLUDING ROADS & YARDS (FLEXIBLE TYPE) & RIGID PAVING CONTROLLED BY QCP 1450.01 & 1713.01  
(2) A COPY OF THE DOCUMENT WILL BE DELIVERED TO OWNER FOR INFORMATION  
(3) MATERIAL APPROVAL WILL BE EXECUTED ONLY FOR MATERIAL SUPPLIED BY CONTRACTOR

#### GENERAL NOTES

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				PROJECT:			
				COMPANY:			
<b>QUALITY CONTROL FORM</b> <span style="float: right;"><b>CW 51</b></span>				PROJ. No.:	QCF REV.	SH. 1 OF 1	
<b>GENERAL EXCAVATION – SOIL FINISHING SUMMARY REPORT</b>				CONTRACTOR:		CW 51 N° _____	
<p>LOCATION IDENTIFICATION / ITEM _____</p> <p>COORDINATES _____</p> <p>AREA _____</p> <p>DWG'S &amp; REV. _____</p>							
INSPECTIONS (Ref. to QCP 1440.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTOR SIGNATURE & DATE		
					CONTRACTOR	TECHNIP	OWNER
C.1	LOCATION	<input type="checkbox"/>	<input type="checkbox"/>				
C.2	EXCAVATION AND DEPTH	<input type="checkbox"/>	<input type="checkbox"/>				
C.3	SLOPES	<input type="checkbox"/>	<input type="checkbox"/>				
C.4	TRANSPORT OF EXCAVATED MATERIAL TO DISPOSAL AREA	<input type="checkbox"/>	<input type="checkbox"/>				
C.5	DRAINAGE	<input type="checkbox"/>	<input type="checkbox"/>				
C.6	COMPACTED SUBGRADE	<input type="checkbox"/>	<input type="checkbox"/>				
C.7	GROUND DENSITY TEST	<input type="checkbox"/>	<input type="checkbox"/>	QC 11 (*)			
C.8	PLATE LOAD TEST	<input type="checkbox"/>	<input type="checkbox"/>				
C.9	FINAL GRADING & FINISHING	<input type="checkbox"/>	<input type="checkbox"/>				
<p>NOTES: (*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :</p> <p>QC 11 N° _____</p>							
C.10) FINAL DOC. REVIEW	<b>INSPECTORS</b>	<b>CONTRACTOR</b>		<b>PMC</b>		<b>OWNER</b>	
	NAME						
	SIGNATURE						
	DATE						



				PROJECT:			
				COMPANY:			
<b>QUALITY CONTROL FORM                      CW 52</b>				PROJ. No.:	QCF REV.	SH. 1 OF 1	
<b>GENERAL EMBANKMENT SUMMARY REPORT</b>				CONTRACTOR:		CW 52 N° _____	
LOCATION IDENTIFICATION / ITEM _____  COORDINATES _____  AREA _____  DWG'S & REV. _____							
INSPECTIONS (Ref. to QCP 1440.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTOR SIGNATURE & DATE		
					CONTRACTOR	TECHNIP	OWNER
D.1	GROUND PREPARATION	<input type="checkbox"/>	<input type="checkbox"/>				
D.2	LAYING MATERIAL AND COMPACTION	<input type="checkbox"/>	<input type="checkbox"/>				
D.3	GROUND DENSITY TEST	<input type="checkbox"/>	<input type="checkbox"/>	QC 11 (*)			
D.4	PLATE LOAD TEST	<input type="checkbox"/>	<input type="checkbox"/>				
D.5	TOP ELEVATION	<input type="checkbox"/>	<input type="checkbox"/>				
D.6	SLOPES	<input type="checkbox"/>	<input type="checkbox"/>				
D.7	DRAINAGE	<input type="checkbox"/>	<input type="checkbox"/>				
D.8	FINAL ROLLING AND FINISHING	<input type="checkbox"/>	<input type="checkbox"/>				
NOTES: (*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :  QC 11 N° _____							
<b>D.9 FINAL DOC. REVIEW</b>	<b>INSPECTORS</b>	<b>CONTRACTOR</b>		<b>PMC</b>		<b>OWNER</b>	
	NAME						
	SIGNATURE						
	DATE						



PROJECT:

COMPANY:

QUALITY CONTROL FORM

CW 53

PROJ. No.:

QCF REV.

SH. 1 OF 1

**SOIL SCRUBBING  
SUMMARY REPORT**

CONTRACTOR:

CW 53 N° \_\_\_\_\_

COORDINATES \_\_\_\_\_

AREA \_\_\_\_\_

SUB AREA \_\_\_\_\_

DWG'S &amp; REV. \_\_\_\_\_



Nr.	INSPECTIONS (Ref. to QCP 1440.01)	N.A.	ACC.	REMARKS/ REFERENCES	INSPECTOR SIGNATURE & DATE		
					CONTRACTOR	TECHNIP	OWNER
G.1	LOCATION	<input type="checkbox"/>	<input type="checkbox"/>				
G.2	REMOVAL FROM SITE OF ANY SURFACE OBSTRUCTION AND TRANSPORT TO DISPOSAL AREA	<input type="checkbox"/>	<input type="checkbox"/>				
G.3	SOIL SCRUBBING	<input type="checkbox"/>	<input type="checkbox"/>				
G.4	TRANSPORT OF REMOVED SOIL TO INDICATED AREA	<input type="checkbox"/>	<input type="checkbox"/>				
G.5	FINAL GRADING	<input type="checkbox"/>	<input type="checkbox"/>				

NOTES:

G.6) FINAL DOC. REVIEW	INSPECTORS	CONTRACTOR	PMC	OWNER
	NAME			
	SIGNATURE			
	DATE			

QCF STANDARD REV.0

				PROJECT:		
				COMPANY:		
<b>QUALITY CONTROL FORM      CW 61 A</b>				PROJ. No.:	QCF REV. 0	SH. 1 OF 1
<b>SECTION EXCAVATION SUMMARY REPORT</b>				CONTRACTOR:		CW 61 A N° _____
TRENCH                      IDENTIFICATION                      /                      ITEM  COORDINATES    _____  AREA                      _____  DWG'S & REV.    _____				EXCAVATION FOR:  U/G PIPING <input type="checkbox"/> U/G CABLES <input type="checkbox"/> FOUNDATIONS <input type="checkbox"/> ..... <input type="checkbox"/>		
<b>INSPECTIONS</b> (Ref. to QCP 1440.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTOR SIGNATURE & DATE	
					CONTRACTOR	TECHNIP
						OWNER
E.1	POSITION AND ROUTING	<input type="checkbox"/>	<input type="checkbox"/>			
E.2	EXCAVATION & DEPTH	<input type="checkbox"/>	<input type="checkbox"/>			
E.3	COMPACTED GROUND	<input type="checkbox"/>	<input type="checkbox"/>			
E.4	GROUND DENSITY TEST	<input type="checkbox"/>	<input type="checkbox"/>	QC 11 (*)		
E.5	SEND BED / LEAN CONCRETE ELEVATION	<input type="checkbox"/>	<input type="checkbox"/>			
E.6	ANCHOR BLOCKS OPERATIONAL AREA CLEAR	<input type="checkbox"/>	<input type="checkbox"/>			
E.7	TRANSPORT OF EXCAVATED MATERIAL TO DISPOSAL AREA	<input type="checkbox"/>	<input type="checkbox"/>			
NOTES: (*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :  QC 11 N° _____						
<b>E.8) FINAL DOC. REVIEW</b>	<b>INSPECTORS</b>	<b>CONTRACTOR</b>		<b>PMC</b>		<b>OWNER</b>
	NAME					
	SIGNATURE					
	DATE					

 				PROJECT:			
				COMPANY:			
QUALITY CONTROL FORM <b>CW 61 B</b>				PROJ. No.:	QCF REV. 0	SH. 1 OF 1	
<b>BACKFILLING SUMMARY REPORT</b>				CONTRACTOR:		CW 61 B N° _____	
TRENCH IDENTIFICATION / ITEM COORDINATES _____ AREA _____ DWG'S & REV. _____				EXCAVATION FOR: U/G PIPING <input type="checkbox"/> U/G CABLES <input type="checkbox"/> FOUNDATIONS <input type="checkbox"/> ..... <input type="checkbox"/>			
INSPECTIONS (Ref. to QCP 1440.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTOR SIGNATURE & DATE		
					CONTRACTOR	TECHNIP	OWNER
F.1	SAND COVERING	<input type="checkbox"/>	<input type="checkbox"/>				
F.2	BACKFILLING	<input type="checkbox"/>	<input type="checkbox"/>				
F.3	GROUND DENSITY TEST	<input type="checkbox"/>	<input type="checkbox"/>	QC 11 (*)			
F.4	FINISHING WORK	<input type="checkbox"/>	<input type="checkbox"/>				
NOTES: (*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES : QC 11 N° _____							
F.5) FINAL DOC. REVIEW	INSPECTORS	CONTRACTOR		PMC		OWNER	
	NAME						
	SIGNATURE						
	DATE						



PROJECT:

COMPANY:

QUALITY CONTROL FORM

QC 11

PROJ. No.:

QCF REV.

SH. 1 OF 1

**COMPACTION TEST  
SUMMARY**



CONTRACTOR:



QC 11 N° \_\_\_\_\_

PROGR	ITEM OR LOCATION IDENTIFICAT.	AREA	DATE	MATERIAL TO BE COMPACTED (sub-grade, backfilling, sub- base.....etc.)	VISUAL CHECK	LAYER THICKNESS CHECK	SMOOTHNES S CHECK	QUALIFIED LABORATORY TEST REP. N° (REPORT ATTACHED)	No. OF LAYERS REQ.	LAYER N°	TEST RESULT		REMARKS
											ACC.	NOT ACC.	
1											<input type="checkbox"/>	<input type="checkbox"/>	
2											<input type="checkbox"/>	<input type="checkbox"/>	
3											<input type="checkbox"/>	<input type="checkbox"/>	
4											<input type="checkbox"/>	<input type="checkbox"/>	
5											<input type="checkbox"/>	<input type="checkbox"/>	
6											<input type="checkbox"/>	<input type="checkbox"/>	
7											<input type="checkbox"/>	<input type="checkbox"/>	
8											<input type="checkbox"/>	<input type="checkbox"/>	
9											<input type="checkbox"/>	<input type="checkbox"/>	
10											<input type="checkbox"/>	<input type="checkbox"/>	

NOTE: THIS QCF CAN BE DONE BY ELECTRONIC SHEET

INSPECTORS	CONTRACTOR	PMC	OWNER
NAME			
SIGNATURE			
DATE			

 		PROJECT:	
		COMPANY:	
QUALITY CONTROL FORM <b>W 12/A</b>		PROJ. No.:	QCF REV. 0
<b>CONSTRUCTION MATERIALS APPROVAL</b>		CONTRACTOR:	<b>W 12/A N°</b> _____
CIVIL <input type="checkbox"/>	PIPING <input type="checkbox"/>	MACHINERY <input type="checkbox"/>	INSULATION <input type="checkbox"/>
BLDG. <input type="checkbox"/>	MECHANIC. <input type="checkbox"/>	ELECTRICAL <input type="checkbox"/>	STEEL STR. <input type="checkbox"/>
NDT <input type="checkbox"/>	SUPPORT PRF. <input type="checkbox"/>	_____ <input type="checkbox"/>	_____ <input type="checkbox"/>
1. MATERIALS			
2. SUPPLIER			
3. PURPOSE			
4. ATTACHMENT DATA			
5. TYPE OF TEST PERFORMED			
6. TEST STANDARD UTILIZED			
REMARKS:			
RESULT:		ACCEPTED <input type="checkbox"/>	NOT ACCEPTED <input type="checkbox"/>
<b>INSPECTORS</b>	<b>CONTRACTOR</b>	<b>PMC</b>	<b>OWNER</b>
NAME			
SIGNATURE			
DATE			

 	<b>PROJECT</b>		Standby SRU & Additional Tanks IOCL Paradip Refinery	
	<b>CLIENT</b>		INDIAN OIL CORPORATION LIMITED	
QCP-REINFORCED CONCRETE FOR FOUNDATION/ELEVATION STRUCTURES AND BASINS	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1710-001	<b>Rev. No.</b> A	Page 1 of 5

**QUALITY CONTROL PLAN**  
**CIVIL WORKS REINFORCED**  
**CONCRETE FOR**  
**FOUNDATION/ELEVATION STRUCTURES AND BASINS**





TYPE OF QUALITY CONTROL REPORT	CERTIFICATION EXTENT
W 12/A – CW 15A	SINGLE REPORT PER EACH MATERIAL – CONCRETE MIX
CW 35 – CW 17	SINGLE REPORT PER EACH ITEM
CW 01	SUMMARY
CW 33 – CW 38	SINGLE REPORT PER EACH ITEM
CW 100	SINGLE REPORT PER EACH RELEASED GROUP OF ITEMS

**REFERENCE DOCUMENTS:**

- 080557C-000-PP-805 SITE CO-ORDINATION & COMMUNICATION PROCEDURE
- 080557C-000-JSS-1700-001 SPECIFICATION FOR PLAIN & REINFORCED CEMENT CONCRETE
- Drawings



**LEGENDA**

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R	=	REVIEW OF REPORTS
N.A.	=	NOT APPLICABLE
A	=	AUTHORIZATION / APPROVAL
IFA	=	ISSUED FOR AUTHORIZATION/APPROVAL
INFO	=	FOR INFORMATION
!	=	WARNING (control of document revision status)

						
A	19/10/2019	ISSUED FOR INFORMATION	SMP	PK	LA/ANJ	JMC
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	AUTHORIZED

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 	PROJECT	Standby SRU & Additional Tanks IOCL Paradip Refinery		
	CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP-REINFORCED CONCRETE FOR FOUNDATION/ELEVATION STRUCTURES AND BASINS	Project No. 080557C001	Document No. 080557C-000-QCP-1710-001	Rev. No. A	Page 2 of 5

## QUALITY CONTROL PLAN

### CIVIL WORKS



### REINFORCED CONCRETE FOR FOUNDATION / ELEVATION STRUCTURES AND BASINS

### QUALITY CONTROL ACTIVITIES

Nr.	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTR.	TECHNIP	
<b>A)</b>	<b>PRELIMINARY ACTIVITIES</b>				
A.1	CONTRACTOR DRAWINGS CHECK REVISION STATUS	N.A.	!	!	
A.2	CONTRACTOR TECHNICAL SPECIFICATION AND PROCEDURE	N.A.	IFA	A	
A.3	CONTRACTOR METHOD STATEMENT	N.A.	IFA	A	(1)
<b>B)</b>	<b>BEFORE CASTING</b>				
B.1	MATERIALS APPROVAL	W 12/A	IFA	A	(1) (6)
B.2	MIXING FORMULA APPROVAL	CW 15A	IFA	A	(1)
B.3	MIXING FORMULA LIST	CW 01	IFA	A	(1) (2)
<b>C)</b>	<b>EXCAVATION (IF ANY)</b>	CW 61A / CW 33	WC	R	(5)
<b>D)</b>	<b>CONSTRUCTION</b>				
D.1	LEAN CONCRETE LEVEL	CW 33	WC	W/R	
D.2	COORDINATES CHECK	CW 33	WC	R	
D.3	FORMWORK - GEOMETRY AND POSITION - STABILITY AND PLUMBNESS - CLEANLINESS - OIL COATING	CW 33	WC	W/R	
D.4	REINFORCEMENT - SPACERS AND CONCRETE COVER - LAP SPLICE - BENDING AND TIE BAR - REBAR NUMBER, SIZE & SPACING - CLEANLINESS - WELDED WIRE FABRIC (IF ANY) - COATING TOUCH UP (IF REQUIRED)	CW 33	WC	W/R	
D.5	EMBEDDED ITEMS - ANCHOR BOLTS: NUMBER/SIZE & POSITION - STEEL INSERTS: POSITION & GEOMETRY - COATING TOUCH UP (IF REQUIRED)	CW 33	WC	R	

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 	<b>PROJECT</b>		<b>Standby SRU &amp; Additional Tanks</b>	
	<b>CLIENT</b>		<b>IOCL Paradip Refinery</b>	
<b>QCP-REINFORCED CONCRETE FOR FOUNDATION/ELEVATION STRUCTURES AND BASINS</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1710-001	<b>Rev. No.</b> A	Page 3 of 5

**QUALITY CONTROL PLAN**  
**CIVIL WORKS**  
**REINFORCED CONCRETE FOR FOUNDATION /**  
**ELEVATION STRUCTURES AND BASINS**

**QUALITY CONTROL ACTIVITIES**



Nr.	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTR.	TECHNIP	
D.6	WATER STOPS (IF ANY) - POSITION AND TYPE	CW 33	WC	R	(3)
D.7	AUTHORIZATION FOR CASTING	CW 33	WC	W/R	
D.8	CASTING:	CW 33	WC	W/R	
D.8.1	SLUMP TEST & AIR CONTENT TEST (IF REQUIRED)	CW 35 / CW 33	WC	W/R	
D.8.2	SAMPLE STRENGTH TEST	CW 17 / CW 33	WC	W/R	
D.9	CURING	CW 33	WC	R/S	
D.10	ANCHOR BOLTS: - POSITION AND ELEVATION	CW 33	WC	W/R	(4)
D.11	FORMWORK STRIPPING	CW 33	WC	S	
D.11.1	CONCRETE SURFACE REPAIRING (IF ANY)	CW 33	WC	W/R	
D.12	PROTECTIVE COATING (WHERE REQUIRED)	CW 33	WC	W/R	
D.13	LEAKAGE TEST (IF ANY)	CW 38 / CW 33	WC	W/R	(3)
D.14	AUTHORIZATION FOR BACKFILLING	CW 33	WC	A	
E)	<b>BACKFILLING</b>	CW 61B / CW 33	WC	W/R	(5)
F)	<b>FOUNDATION RELEASE</b>	CW 100 / CW33	WC	R	
G)	<b>STRENGHT TEST RESULT &amp; SAMPLE UNIT WEIGHT</b>	CW 17 / CW33 LAB. TEST	WC	W/R	
H)	<b>FINAL DOCUMENTATION REVIEW</b>	CW 33	P	R	

**NOTES:**

- (1) A COPY OF THE DOCUMENT WILL BE DELIVERED TO OWNER FOR INFORMATION
- (2) THE FORM CW 01 (MIX DESIGN LIST) MUST BE FILLED AND UP-TO-DATE BY CONTRACTOR, BUT SCANNED AT THE END OF THE WORKS ONLY
- (3) FOR BASINS ONLY. SEWER PITS LEAKAGE TEST SHALL BE EXECUTED TOGETHER WITH RELEVANT SEWER LINE (Use QCP 1470.001)
- (4) CONTRACTOR WILL PREPARE A DETAILED SKETCH
- (5) FORMS, INSPECTIONS AND ATTENDANCE SHALL BE IN ACCORDANCE WITH REFERRED QCP
- (6) MATERIAL APPROVAL WILL BE EXECUTED ONLY FOR MATERIAL SUPPLIED BY CONTRACTOR

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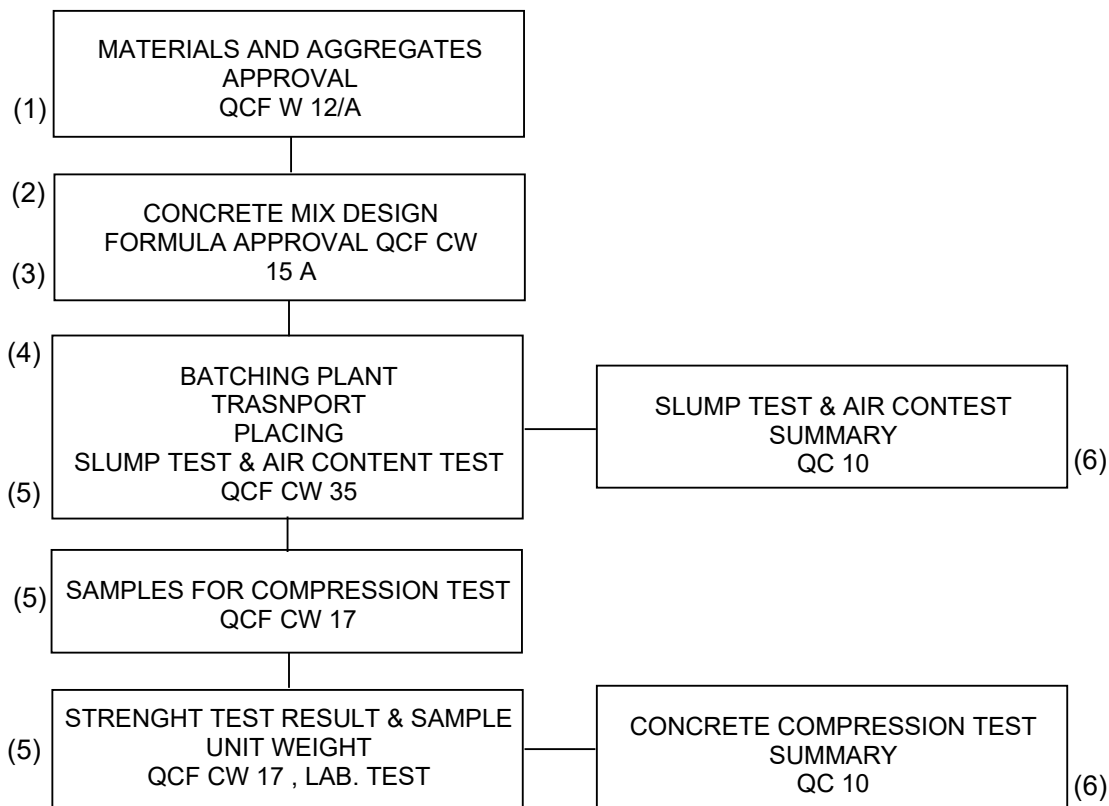
 	PROJECT	Standby SRU & Additional Tanks IOCL Paradip Refinery		
	CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP-REINFORCED CONCRETE FOR FOUNDATION/ELEVATION STRUCTURES AND BASINS	Project No. 080557C001	Document No. 080557C-000-QCP-1710-001	Rev. No. A	Page 4 of 5

## QUALITY CONTROL PLAN

### CIVIL WORKS



### REINFORCED CONCRETE FOR FOUNDATION / ELEVATION STRUCTURES AND BASINS

#### CONCRETE CONTROL SEQUENCE





#### NOTES:

- (1) MATERIALS AND AGGREGATES MUST BE APPROVED PRIOR STARTING OF WORKS AND EVERY CHANGE OF SOURCE.
- (2) - GRANULOMETRY TEST EVERY WEEK AND EVERY CHANGE OF SOURCE OR WHENEVER REQUESTED BY CONTRACTOR  
- WATER CHEMICAL ANALYSIS SHALL BE REPEATED EACH TWO MONTHS AND EVERY CHANGE OF SOURCE OR WHENEVER REQUESTED BY CONTRACTOR.
- (3) ADMIXTURES REQUIRE PRIOR APPROVAL FROM CONTRACTOR/ENGINEER.
- (4) EVERY CONCRETE MIXER TRUCK MUST BE ACCOMPANIED BY TICKET REPORT (QCF W 35) AND EVERY CASTING SITE MUST BE HAVING CONCRETE SLUMP TEST APPARATUS.
- (5) FOR SLUMP & COMPRESSION TESTS SEE 072849C-000-JSS-1700-001
- (6) **THE QC 10 WILL NOT BE PART OF THE QUALITY DOSSIER. IT IS ATTACHED AS AN EXAMPLE OF ELECTRONIC SHEET FOR CONCRETE MANAGEMENT ONLY.**

 	<b>PROJECT</b>		<b>Standby SRU &amp; Additional Tanks</b>	
	<b>CLIENT</b>		<b>IOCL Paradip Refinery</b>	
<b>QCP-REINFORCED CONCRETE FOR FOUNDATION/ELEVATION STRUCTURES AND BASINS</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1710-001	<b>Rev. No.</b> A	Page 5 of 5

#### GENERAL NOTES

- 1 THE ENCLOSED ITP'S ARE INDICATIVE AND SHALL BE FOLLOWED FOR DEVELOPING THE JOB SPECIFIC ITP'S FOR THE WORKS TO BE PERFORMED BY THE CONTRACTOR. THE PROVISIONS INDICATED FOR STAGE WISE INSPECTION BY TECHNIP AND OWNER (FOR SPECIFIC ACTIVITIES) ARE THE MINIMUM AND THE ENGINEER-IN- CHARGE MAY DECIDE TO INCREASE HOLD POINTS/ WITNESS POINTS, WHILE APPROVING THE JOB SPECIFIC ITP'S. ACTIVITIES FOR WHICH ITP'S ARE NOT PROVIDED IN THIS SPECIFICATION. CONTRACTOR TO DEVELOP AND GET THE SAME APPROVED BY TECHNIP/OWNER BEFORE START OF THE WORK. IN GENERAL ROLE OF TECHNIP HAS BEEN SPECIFIED IN THE DOCUMENT THE ROLE OF OWNER TO BE SPECIFIED DURING PREPARATION OF SITE SPECIFIC ITP'S.
- 2 CONTRACTOR TO SUBMIT JOB SPECIFIC REPORTING FORMATS AND JOB PROCEDURES FOR THE JOBS FOR EACH ACTIVITY LISTED IN THE ITP'S AND SUBMIT TO TECHNIP/OWNER FOR APPROVAL. BEFORE COMMENCEMENT OF THE ACTIVITY. IF THE CONTRACTOR HAS TO DEVIATE FROM THE GIVEN ITP FOR A VALID REASON, HE SHALL OBTAIN PRIOR WRITTEN APPROVAL OF TECHNIP/OWNER. CONTRACTOR TO CARRY OUT 100% EXAMINATION OF ALL ACTIVITIES.

 			PROJECT:		
			COMPANY:		
QUALITY CONTROL FORM <b>CW 01</b>			PROJ. No.:	QCF REV.	SH. 1 OF 1
<b>MIX DESIGN LIST</b>			CONTRACTOR:		<b>CW 01 N° _____</b>
ITEM	MIX DESIGN FORMULA		CONCRETE CLASS	CONCRETE APPLICATION	
	REFER. NR.	APPROVAL DATE	N/mm <sup>2</sup>		
1	CW 15A N°				
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
REMARKS:					



COMPANY:



## CW 100

SH. 1 OF 1

## CW 100 N° \_\_\_\_\_

REMARKS:

DATE \_\_\_\_\_

 		PROJECT:	
		COMPANY:	
QUALITY CONTROL FORM <b>CW 15 A</b>		PROJ. No.:	QCF REV.
		SH. 1 OF 1	
<b>CONCRETE MIX DESIGN APPROVAL</b>		CONTRACTOR:	
		<b>CW 15 A N°</b> _____	
1. MIX DESIGN N°	_____		
2. SPECIFIED CONCRETE STRENGTH (28 DAYS) (CONCRETE CLASS)	_____		
3. MIX DESIGN CONCRETE STRENGTH (28 DAYS)	_____		
4. MIX DESIGN CONCRETE SLUMP	_____		
5. CEMENT TYPE	_____		
6. ADMIXTURES	_____		
7. PURPOSE	_____		
8. BATCHING PLANT	_____		
9. ATTACHMENT DATA	_____		
REMARKS:			
RESULT:                      ACCEPTED <input type="checkbox"/> NOT ACCEPTED <input type="checkbox"/>			
<b>INSPECTORS</b>	<b>CONTRACTOR</b>	<b>PMC</b>	<b>OWNER</b>
NAME			
SIGNATURE			
DATE			



PROJECT:

COMPANY:

QUALITY CONTROL FORM

CW 17

PROJ. No.:

QCF REV.

SH. 1 OF 1

## CONCRETE SAMPLE COMPRESSION TEST

CONTRACTOR:

CW 17 N° \_\_\_\_\_

## SAMPLE DATA

SAMPLE NR	ITEM	AREA	CONCRETE		SAMPLE DATE	CASTING TEMPERATURE (C)	ADMIXTURE TYPE & DOSAGE	REMARKS
			CLASS	MIX DESIGN				

## TEST RESULT

SAMPLE NR.	AGE AT TEST (DAYS)	RESULT			ATTACHED QUALIFIED LABORATORY TEST RECORD N° & DATE		REMARKS
		STRENGHT	ACC.	UNACC.			

INSPECTORS

CONTRACTOR

PMC

OWNER

NAME

SIGNATURE

DATE



PROJECT:

COMPANY:

QUALITY CONTROL FORM

CW 33

PROJ. No.:

QCF REV.

SH. 1 OF 2

**REINFORCED CONCRETE  
SUMMARY REPORT**

CONTRACTOR:

CW 33 N° \_\_\_\_\_

ITEM \_\_\_\_\_  
DESCRIPTION \_\_\_\_\_  
DWG'S & REV \_\_\_\_\_  
AREA \_\_\_\_\_

FOOTING ☐ COLUMN ☐  
FOUNDATION BEAMS ☐ WALLS ☐  
ELEVATED BEAMS ☐ PITS ☐  
ELEVATED SLABS ☐ ..... ☐

INSPECTIONS (REF. TO QCP 1710.01)		N.A.	ACC	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTRACTOR	TECHNIP	OWNER
C	EXCAVATION	<input type="checkbox"/>	<input type="checkbox"/>	CW 61A (*)			
D.1	LEAN CONCRETE TOP ELEV.	<input type="checkbox"/>	<input type="checkbox"/>				
D.2	COORDINATES CHECK	<input type="checkbox"/>	<input type="checkbox"/>				
D.3	FORMWORK - GEOMETRY & POSITION - STABILITY & PLUMBNESS - CLEANLINESS - OIL COATING	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
D.4	REINFORCEMENT - SPACERS & CONCRETE COVER - LAP SPLICE - BENDING AND TIE BAR - REBAR NUMBER, SIZE & SPACING - CLEANLINESS - WELDED WIRE FABRIC - COATING TOUCH-UP (IF REQUIRED)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
D.5	EMBEDDED ITEMS - ANCHOR BOLTS: NUMBER / SIZE & POSITION - STEEL INSERTS: POSITION & GEOMETRY - COATING TOUCH-UP	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
D.6	WATER STOPS - POSITION & TYPE	<input type="checkbox"/>	<input type="checkbox"/>				
D.7	AUTHORIZATION FOR CASTING YES <input type="checkbox"/> NO <input type="checkbox"/>						
D.8	CASTING	<input type="checkbox"/>	<input type="checkbox"/>				
D.8.1	SLUMP TEST & AIR CONTENT TEST	<input type="checkbox"/>	<input type="checkbox"/>	CW 35 (*)			
D.8.2	SAMPLE STRENGTH TEST	<input type="checkbox"/>	<input type="checkbox"/>	CW 17 (*)			

QCE STANDARD REV.2



					PROJECT:					
					COMPANY:					
<b>QUALITY CONTROL FORM                      CW 33</b>					PROJ. No.:	QCF REV.	SH. 2 OF 2			
<b>REINFORCED CONCRETE SUMMARY REPORT</b>					CONTRACTOR:		<b>CW 33 N° _____</b>			
ITEM _____ DESCRIPTION _____ DWG'S _____ & _____ REV _____ AREA _____					FOOTING <input type="checkbox"/> COLUMN <input type="checkbox"/> FOUNDATION BEAMS <input type="checkbox"/> WALLS <input type="checkbox"/> ELEVATED BEAMS <input type="checkbox"/> PITS <input type="checkbox"/> ELEVATED SLABS <input type="checkbox"/> ..... <input type="checkbox"/>					
INSPECTIONS (REF. TO QCP 1710.01)				N.A.	ACC	REMARKS/ REFERENCES		INSPECTORS SIGNATURE & DATE		
						CONTRACTOR	TECHNIP	OWNER		
D.9	CURING			<input type="checkbox"/>	<input type="checkbox"/>					
D.10	ANCHOR BOLTS - POSITION & ELEVATION			<input type="checkbox"/>	<input type="checkbox"/>	SEE ATTACHED SKETCH				
D.11	FORMWORK STRIPPING			<input type="checkbox"/>	<input type="checkbox"/>					
D.11.1	CONCRETE SURFACE REPAIRING			<input type="checkbox"/>	<input type="checkbox"/>					
D.12	PROTECTIVE COATING			<input type="checkbox"/>	<input type="checkbox"/>					
D.13	LEAKAGE TEST			<input type="checkbox"/>	<input type="checkbox"/>	CW 38 (*)				
D.14	AUTHORIZATION FOR BACKFILLING      YES <input type="checkbox"/> NO <input type="checkbox"/>									
E	BACKFILLING			<input type="checkbox"/>	<input type="checkbox"/>	CW 61B (*)				
F	FOUNDATION RELEASE			<input type="checkbox"/>	<input type="checkbox"/>	CW 100 (*)				
G	STRENGTH TEST RESULT & SAMPLE UNIT WEIGHT			<input type="checkbox"/>	<input type="checkbox"/>	CW 17 (*)				
NOTES: (*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES : CW 17 N° _____    CW 35 N° _____    CW 38 N° _____    CW 100 N° _____    CW 61A N° _____    CW 61B N° _____										
N.A.    =    NOT APPLICABLE                      ACC.    =    ACCEPTED										
<b>H) FINAL DOC. REVIEW</b>	<b>INSPECTORS</b>			<b>CONTRACTOR</b>			<b>PMC</b>		<b>OWNER</b>	
	NAME									
	SIGNATURE									
	DATE									



COMPANY:

**CW 35**

SH. 1 OF 1

## CW 35 N°

DATE \_\_\_\_\_

CONCRETE MIX DESIGN No. \_\_\_\_\_

REMARKS:



**OWNER**

DATE \_\_\_\_\_

---

DATE \_\_\_\_\_

---

 		PROJECT:	
		COMPANY:	
QUALITY CONTROL FORM <b>CW 38</b>		PROJ. No.:	QCF REV.
HYDRAULIC TEST FOR RETENTION STRUCTURES		CONTRACTOR:	CW 38 N° _____
<p>STRUCTURE DESCRIPTION/ITEM: _____</p> <p>DRAWING No. &amp; REV. _____</p> <p>_____</p> <p>_____ AREA _____</p>			
<b>TEST RECORD</b>			
1. WATER FILLING	START	_____	
	FILLING UNIFORM RATE	_____	
	STOP	_____	
2. STABILIZING PERIOD	START	_____	
	STOP	_____	
3. TEST PERIOD	START	_____	
	END	_____	
4. WATER LEVEL	START	_____ m	
	END	_____ m	
5. LEAKAGE CHECK	YES <input type="checkbox"/>	_____	
	NO <input type="checkbox"/>	_____	
REMARKS			
TEST RESULT: ACCEPTED <input type="checkbox"/>			
<b>INSPECTORS</b>	<b>CONTRACTOR</b>	<b>PMC</b>	<b>OWNER</b>
NAME			
SIGNATURE			
DATE			



PROJECT:

COMPANY:

QUALITY CONTROL FORM

QC 10

PROJ. No.:

SH. 1 OF 1

CONCRETE TEST SUMMARY FOR



CONTRACTOR:

QC 10 N° \_\_\_\_\_

PROGR	ITEM OR DESCRIPTION	AREA/ LOCATION	CASTING DATE	SITE CASTING TEMP. °C	Q.TY m³	CONCRETE		SLUMP TEST & AIR CONTENT TEST		STRENGTH TEST		REPORTS (1)	REMARKS
						CLASS	MIX DESIGN NUMBER	TICKET NR	CW 35 NR LAB. TEST	SAMPLE NR	CW 17 NR LAB. TEST		
1													
2													
3													
4													
5													
6													
7													
8													
10													
11													
12													
13													
14													

NOTE: THIS QCF SHALL BE DONE BY ELECTRONIC SHEET

(1) CW 33 FOR CONCRETE STRUCTURES – CW 32B FOR RIGID PAVING – CW 54 FOR CONCRETE PILES

 		PROJECT:	
		COMPANY:	
QUALITY CONTROL FORM <b>W 12/A</b>		PROJ. No.:	QCF REV.
<b>CONSTRUCTION MATERIALS APPROVAL</b>		CONTRACTOR:	<b>W 12/A N°</b> _____
CIVIL <input type="checkbox"/>	PIPING <input type="checkbox"/>	MACHINERY <input type="checkbox"/>	INSULATION <input type="checkbox"/>
BLDG. <input type="checkbox"/>	MECHANIC. <input type="checkbox"/>	ELECTRICAL <input type="checkbox"/>	STEEL STR. <input type="checkbox"/>
NDT <input type="checkbox"/>	SUPPORT PRF. <input type="checkbox"/>	_____ <input type="checkbox"/>	_____ <input type="checkbox"/>
1. MATERIALS			
2. SUPPLIER			
3. PURPOSE			
4. ATTACHMENT DATA			
5. TYPE OF TEST PERFORMED			
6. TEST STANDARD UTILIZED			
REMARKS:			
RESULT:		ACCEPTED <input type="checkbox"/>	NOT ACCEPTED <input type="checkbox"/>
<b>INSPECTORS</b>	<b>CONTRACTOR</b>	<b>PMC</b>	<b>OWNER</b>
NAME			
SIGNATURE			
DATE			

 	PROJECT	Standby SRU & Additional Tanks		
		IOCL Paradip Refinery		
	CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP-STEEL STRUCTURES ERECTION	Project No. 080557C001	Document No. 080557C-000-QCP-1812-001	Rev. No. A	Page 1 of 3
<b>QUALITY CONTROL PLAN</b> <b>STEEL STRUCTURES ERECTION</b>				



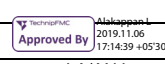

TYPE OF QUALITY CONTROL REPORT	CERTIFICATION EXTENT
CS 2	SINGLE REPORT PER EACH STRUCTURE
CS 3	SINGLE REPORT PER EACH LOT OF NODES
CS 6 – CS 7	SINGLE REPORT PER EACH STRUCTURE OR IDENTIFIED SECTION
CW 58	SINGLE REPORT PER EACH RELEASED GROUP OF ITEMS

#### REFERENCE DOCUMENTS:

- 080557C-000-PP-805 SITE CO-ORDINATION & COMMUNICATION PROCEDURE
- 080557C-000-JSS-1800-001 SPECIFICATIONS FOR STRUCTURAL STEEL WORKS
- Drawings



#### LEGENDA

H	=	HOLD (RFI required - Work stop for inspection)
W	=	WITNESS (RFI required)
WC	=	100 % SUPERVISION AND EXAMINATION BY CONTRACTOR.
P	=	PREPARATION.
S	=	SURVEILLANCE (No RFI)
R	=	REVIEW OF REPORTS
N.A.	=	NOT APPLICABLE
A	=	AUTHORIZATION / APPROVAL
IFA	=	ISSUED FOR AUTHORIZATION/APPROVAL
INFO	=	FOR INFORMATION
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A	21/10/2019	ISSUED FOR INFORMATION	SMP	PKP	LA/ANJ	JMC
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	AUTHORIZED

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 	<b>PROJECT</b>		<b>Standby SRU &amp; Additional Tanks</b>	
	<b>CLIENT</b>		<b>IOCL Paradip Refinery</b>	
<b>QCP-STEEL STRUCTURES ERECTION</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1812-001	<b>Rev. No.</b> A	Page 2 of 3

**QUALITY CONTROL PLAN**  
**STEEL STRUCTURES ERECTION**

**QUALITY CONTROL ACTIVITIES**

Nr.	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTR.	TECHNIP	
<b>A)</b>	<b>PRELIMINARY ACTIVITIES</b>				
A.1	CONTRACTOR DRAWINGS CHECK REVISION STATUS	N.A.	!	!	
A.2	CONTRACTOR TECHNICAL SPECIFICATIONS AND PROCEDURES	N.A.	!	!	
A.3	CONTRACTOR METHOD STATEMENT & ENGINEERED LIFTING STUDY (IF REQUIRED)	N.A.	P	R	(1)
<b>B)</b>	<b>BEFORE ERECTION</b>				
B.1	MATERIAL RELEASED AND CONSERVATION STATUS	N.A.	WC	S	
B.2	FOUNDATIONS CHECK	CS 2	WC	W/R	
<b>C)</b>	<b>STEEL STRUCTURE ERECTION</b>				
C.1	PRE-ASSEMBLYING (IF ANY)	CS 2	WC	S	
C.2	ERECTION	CS 2	WC	S	
C.3	COLUMN POSITION CHECK - COLUMN ALIGNMENT - COLUMN ELEVATION - COLUMN PLUMBNESS	CS 7 / CS 2	WC	S	
C.4	BEAMS POSITION CHECK - BEAMS ELEVATION / LEVELNESS	CS 6 / CS 2	WC	S	
C.5	ANCHOR BOLTS TIGHTNESS BEFORE GROUTING	CS 2	WC	W/R	(2)
C.6	BOLTS TIGHTNESS FOR ELEVATED STRUCTURE	CS 3 / CS 2	WC	W/R	
C.7	GROUTING AUTHORIZATION	CW 58 / CS 2	WC	W/R	(3)
C.8	ANCHOR BOLTS TIGHTNESS AFTER GROUTING	CS 2	WC	S	(2)
C.9	CLEANING & FINAL ACCEPTANCE	CS 2	WC	W/R	
C.10	FINAL DOCUMENTATION REVIEW	CS 2	P	R	

 	<b>PROJECT</b>		<b>Standby SRU &amp; Additional Tanks</b>	
	<b>CLIENT</b>		<b>IOCL Paradip Refinery</b>	
<b>QCP-STEEL STRUCTURES ERECTION</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1812-001	<b>Rev. No.</b> A	Page 3 of 3

- NOTES: (1) A COPY OF THE DOCUMENT WILL BE DELIVERED TO OWNER FOR INFORMATION
- (2) **ANCHOR BOLTS TIGHTENING PROCEDURE:**  
BEFORE GROUTING:  
• ALL BOLTS SHALL BE IN A CONDITION TO INSURE A GOOD CONTACT BETWEEN MATING SURFACES;  
• NUTS SHALL BE MARKED WITH CRAYONS OR CHALK TO SHOW THE LOCATION IN THE PREVIOUS CONDITION.  
AFTER GROUTING:  
• ALL BOLTS SHALL BE IN A "SNUG TIGHT" CONDITION AND ADDITIONALLY SHOULD BE TIGHTENED BY 90°\*180° NUT ROTATION.
- (3) THESE GROUTING AUTHORIZATION REPORTS WILL BE ALWAYS AVAILABLE DURING THE CONSTRUCTION BUT NOT INCLUDED IN THE CONSTRUCTION QUALITY DOSSIER.

#### GENERAL NOTES

- THE ENCLOSED ITP'S ARE INDICATIVE AND SHALL BE FOLLOWED FOR DEVELOPING THE JOB SPECIFIC ITP'S FOR THE WORKS TO BE PERFORMED BY THE CONTRACTOR. THE PROVISIONS INDICATED FOR STAGE WISE INSPECTION BY TECHNIP AND OWNER (FOR SPECIFIC ACTIVITIES) ARE THE MINIMUM AND THE ENGINEER-IN- CHARGE MAY DECIDE TO INCREASE HOLD POINTS/ WITNESS POINTS, WHILE APPROVING THE JOB SPECIFIC ITP'S. ACTIVITIES FOR WHICH ITP'S ARE NOT PROVIDED IN THIS SPECIFICATION. CONTRACTOR TO DEVELOP AND GET THE SAME APPROVED BY TECHNIP/OWNER BEFORE START OF THE WORK. IN GENERAL ROLE OF TECHNIP HAS BEEN SPECIFIED IN THE DOCUMENT THE ROLE OF OWNER TO BE SPECIFIED DURING PREPARATION OF SITE SPECIFIC ITP'S.
- CONTRACTOR TO SUBMIT JOB SPECIFIC REPORTING FORMATS AND JOB PROCEDURES FOR THE JOBS FOR EACH ACTIVITY LISTED IN THE ITP'S AND SUBMIT TO TECHNIP/OWNER FOR APPROVAL. BEFORE COMMENCEMENT OF THE ACTIVITY. IF THE CONTRACTOR HAS TO DEVIATE FROM THE GIVEN ITP FOR A VALID REASON, HE SHALL OBTAIN PRIOR WRITTEN APPROVAL OF TECHNIP/OWNER. CONTRACTOR TO CARRY OUT 100% EXAMINATION OF ALL ACTIVITIES





PROJECT:

COMPANY:

QUALITY CONTROL FORM

CS 2

PROJ. No.:

QCF REV. A

SH. 1 OF 1

**STEEL STRUCTURES ERECTION  
SUMMARY REPORT**

CONTRACTOR:

CS 2 N° \_\_\_\_\_

STEEL STRUCTURE DESCRIPTION / ITEM

AREA

DRAWINGS &amp; REV.

INSPECTIONS (REF. TO QCP 1812.01)		N.A.	ACC	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTRACTOR	TECHNIP	OWNER
B.2	FOUNDATION CHECK	<input type="checkbox"/>	<input type="checkbox"/>				
C.1	PRE-ASSEMBLYING	<input type="checkbox"/>	<input type="checkbox"/>				
C.2	ERECTION	<input type="checkbox"/>	<input type="checkbox"/>				
C.3	COLUMN POSITION CHECK						
	- COLUMN ALIGNMENT	<input type="checkbox"/>	<input type="checkbox"/>				
	- COLUMN ELEVATION	<input type="checkbox"/>	<input type="checkbox"/>	CS 7 (*)			
	- COLUMN PLUMBNESS	<input type="checkbox"/>	<input type="checkbox"/>	CS 7 (*)			
C.4	BEAMS POSITION CHECK						
	- BEAMS ELEVATION / LEVELNESS	<input type="checkbox"/>	<input type="checkbox"/>	CS 6 (*)			
C.5	ANCHOR BOLTS TIGHTNESS BEFORE GROUTING	<input type="checkbox"/>	<input type="checkbox"/>				
C.6	BOLTS TIGHTNESS FOR ELEVATED STRUCTURE	<input type="checkbox"/>	<input type="checkbox"/>	CS 3 (*)			
C.7	GROUTING AUTHORIZATION YES <input type="checkbox"/> NO <input type="checkbox"/>			CW 58 (*)			
C.8	ANCHOR BOLTS TIGHTNESS AFTER GROUTING	<input type="checkbox"/>	<input type="checkbox"/>				
C.9	CLEANING & FINAL ACCEPTANCE	<input type="checkbox"/>	<input type="checkbox"/>				

NOTES: (\*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :

CW 58 N° \_\_\_\_\_ CS 3 N° \_\_\_\_\_ CS 6 N° \_\_\_\_\_ CS 7 N° \_\_\_\_\_

N.A. = NOT APPLICABLE

ACC. = ACCEPTED

C.10) FINAL DOC. REVIEW	INSPECTORS	CONTRACTOR	PMC	OWNER
	NAME			
	SIGNATURE			
	DATE			



PROJECT:

COMPANY:

QUALITY CONTROL FORM

CS 3

PROJ. No.:

QCF REV. A

SH. 1 OF 1

**BOLTS TIGHTENING CHECK  
(STRUCTURES REPORT)**

CONTRACTOR:

CS 3 N° \_\_\_\_\_

STEEL STRUCTURE DESCRIPTION / ITEM \_\_\_\_\_

AREA \_\_\_\_\_

DRAWINGS &amp; REV. \_\_\_\_\_

1 NUMBER OF OMOGENEOUS NODES INCLUDED  
IN THE REFERENCE LOT TO BE CHECKED \_\_\_\_\_

2 SIZE OF BOLTS \_\_\_\_\_

3 BOLTS CLASS \_\_\_\_\_

4 DESIGN TIGHTENING TORQUE (Nm) \_\_\_\_\_

(ONLY FOR CALIBRATED WRENCH APPLICATION)

5 TOTAL N° OF BOLTS FOR THE REF. LOT \_\_\_\_\_

6 BOLT CHECK

- MINIMUM 5% OF TOTAL BOLTS FOR THE REF. LOT
- MINIMUM 2 BOLTS PER EACH NODE

7 TIGHTENING METHOD

- CALIBRATED WRENCH ☐
- TURN OF NUTS ☐

CHECKED BOLTS  
PER NODEACTUAL TORQUE (1)  
(Nm)

ACC.

UN-ACC.

Total Bolt Checked

REMARKS: (1) Column to fill up only when Calibrated Wrench is applied.

**INSPECTORS****CONTRACTOR****PMC****OWNER**

NAME

SIGNATURE

DATE



COMPANY:

SH. 1 OF 1

## CS 6 N° \_\_\_\_\_

AREA

NOTES: (1) COLUMN IDENTIFICATION

<i><b>INSPECTORS</b></i>	<i><b>CONTRACTOR</b></i>	<i><b>PMC</b></i>	<i><b>OWNER</b></i>
<b>NAME</b>			
<b>SIGNATURE</b>			
<b>DATE</b>			





COMPANY:

**CW 58**

SH. 1 OF 1

CW 58 N° \_\_\_\_\_

REMARKS:

DATE \_\_\_\_\_