

RAHC project

ExxonMobil raffinaderij

Botlek Rotterdam

Met dank aan Lucy Stol

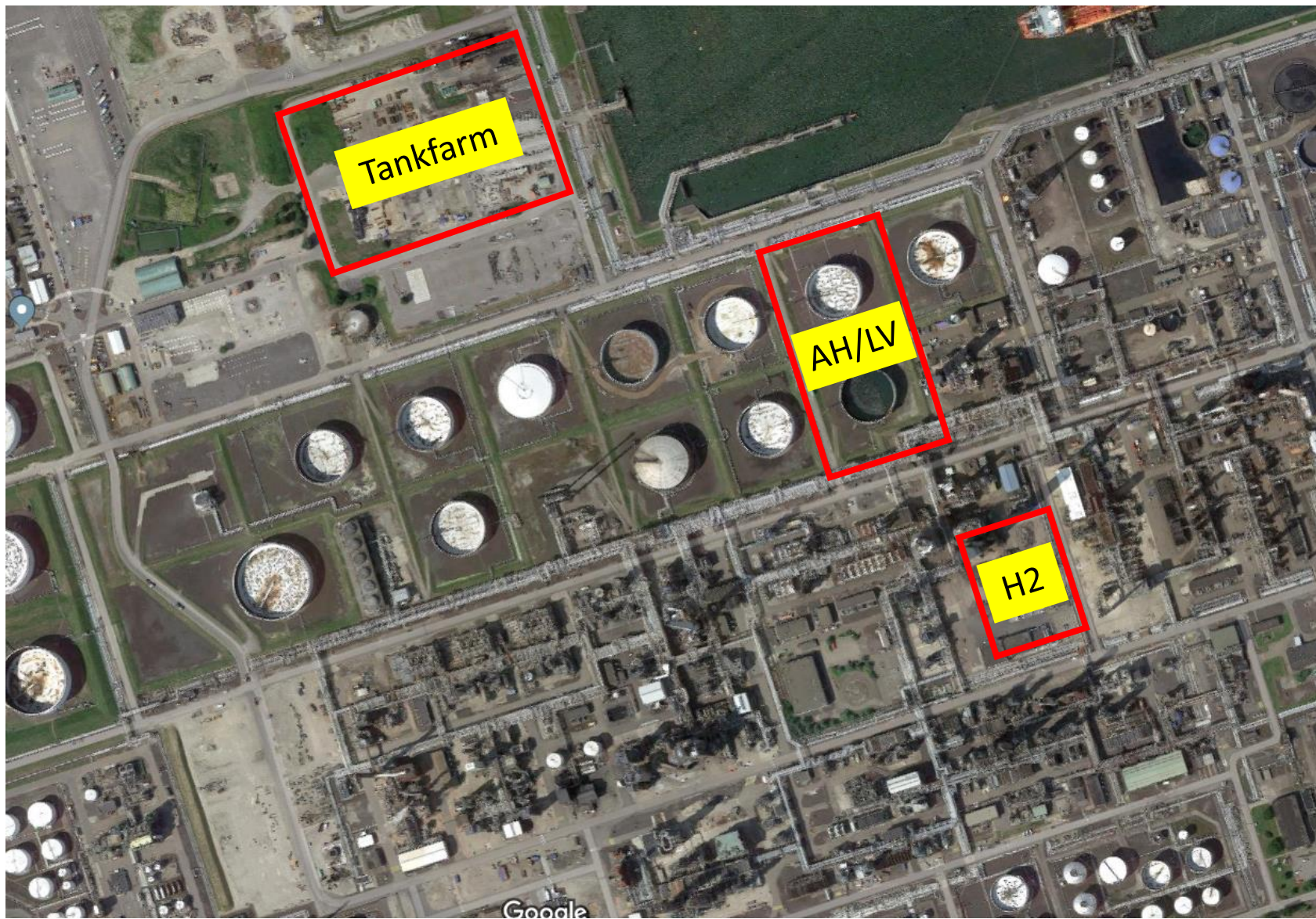


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- Wat is het project?
Nieuwe fabriek voor hoogwaardige oliën
- EPC contract tussen EM en Fluor
- Meerdere grote aannemers:
Ballast-Nedam Industriebouw: heiverken, betonwerken, ondergrondse infra
IREM: Piping, aansluiten Mechanical
Sarens: Installeren “potten en pannen”
Croon: E&I installaties

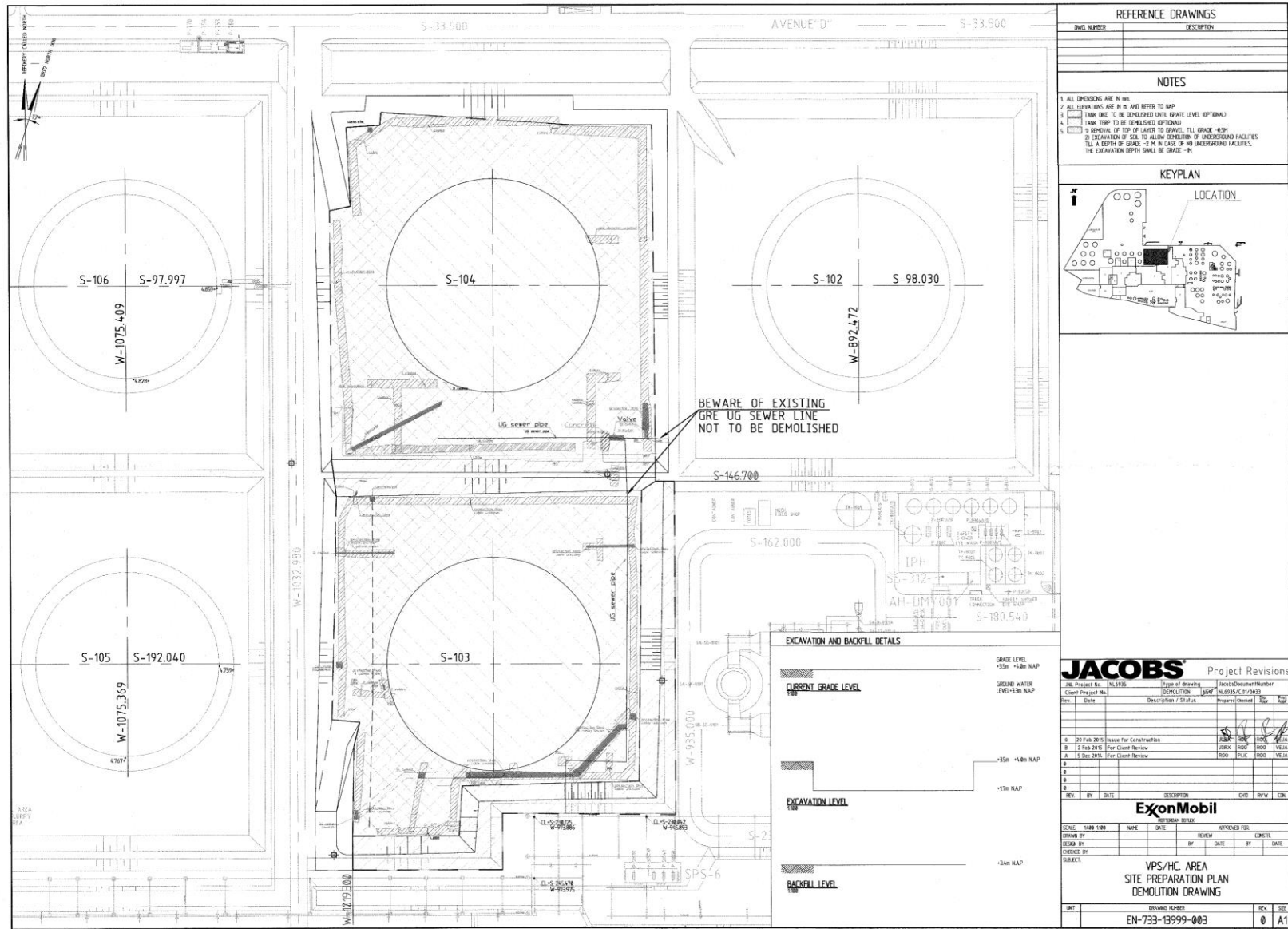




Contract Ballast-Nedam Industriebouw

- Alleen bouwen, geen ontwerp verplichting (alleen voor rioolputten incl. lekdichtheid)
- Complete handover van project incl. QA/QC (speerpunt Fluor)
- Start uitvoering project:
 Origineel: 01-2016 t/m 09-2017
 Werkelijk: 06-2016 t/m 07-2018
- Alles afgeprijsd via Unit Rates





Veiligheid

Project slogan: Nobody Gets Hurt

Hoe?

- VCA/VCA Vol verplicht voor iedereen
- Alle projectmedewerkers intensieve 2 daagse HSE cursus
- Resultaat: Projectpas EM en na 6 weken safety mature
- Dagelijkse All hands meeting
- Safety drills
- Werkprocedures
- Helpkaarten etc





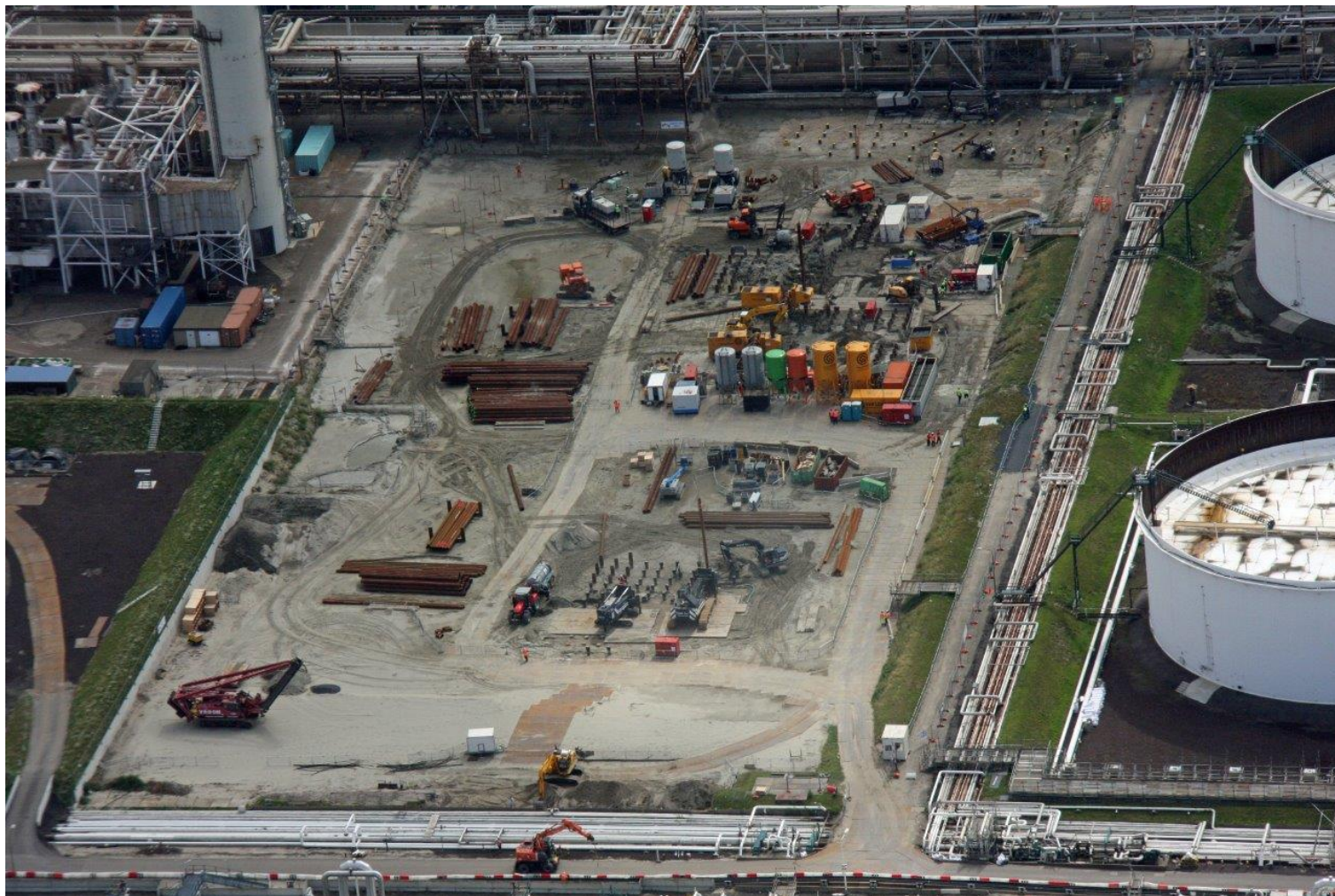
De Rijn stroomt van Zwitserland naar de Noordzee en niet andersom!



Start heiwerken







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Betonwerken



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Mechanical





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Riolering





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QA/QC

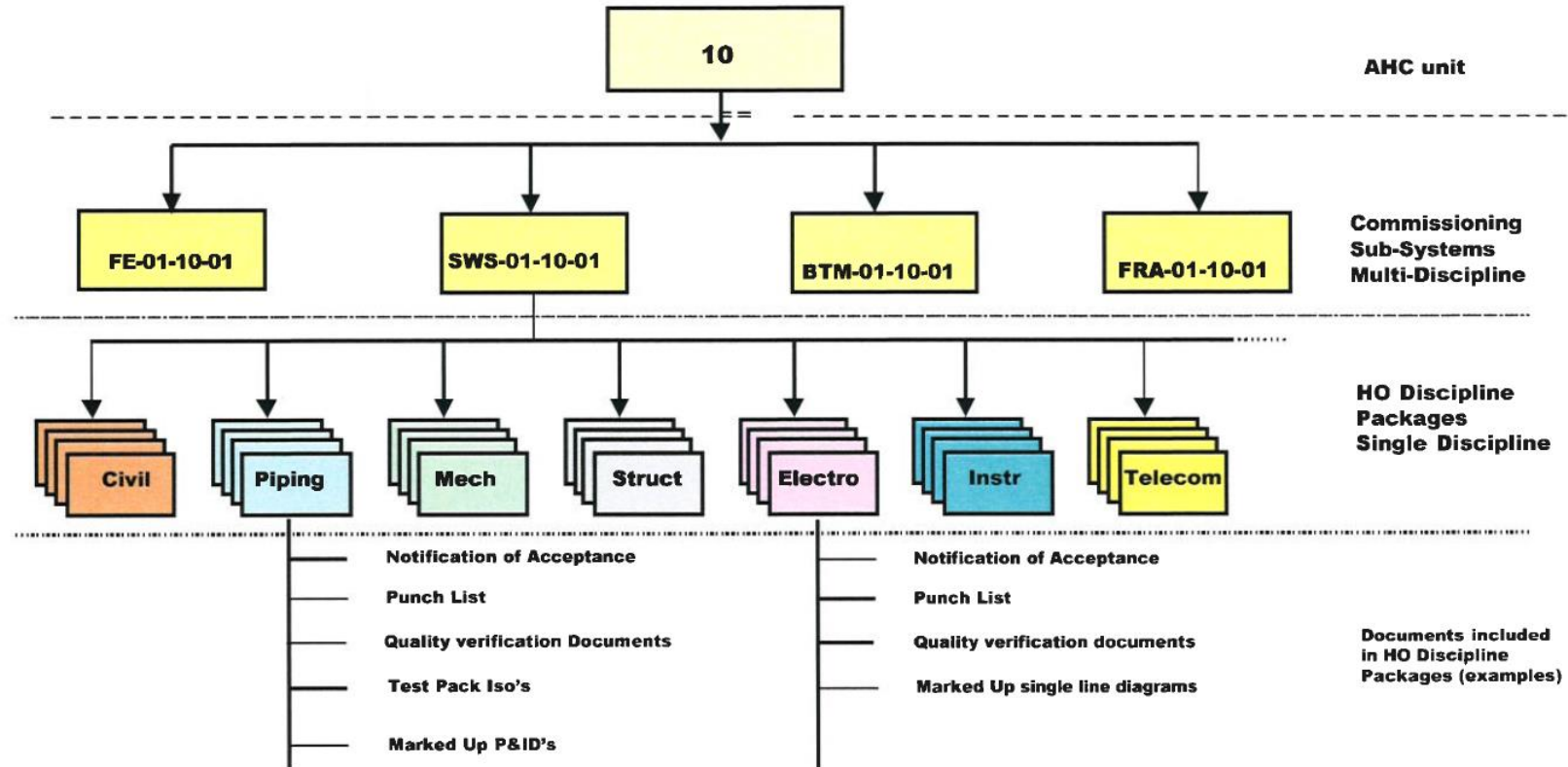
Kwaliteitscontrole + Handover project

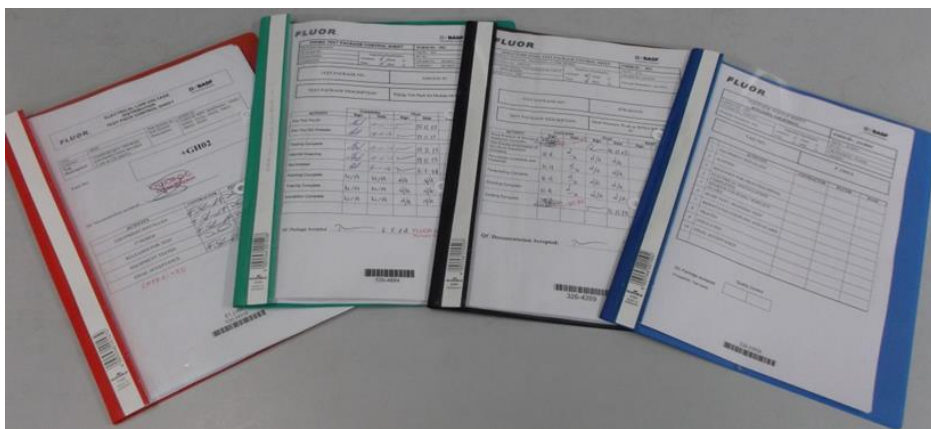
Hoe?

- Kwaliteit via Specs en geldende normen
- Handover via MCPlus



HO BREAKDOWN





FLUOR

ExxonMobil

HANDOVER PACKAGE STATUS SHEET PIPING WITHOUT TRACING, INSULATION, COATING		Form ID: A-PP01
HO Pack Type Code / Description:	Handover Pack No.:	
Location Unit/WBS:	TO System No.:	
Contractor:	TO System Description:	
Commissioning System:		
Barcode:		

HANDOVER PACKAGE No:		NOBO	KVI
HO PACKAGE DESCRIPTION:		YES / NO	YES / NO

	ACTIVITY	CONTRACTOR	FLUOR
	QC DOCUMENTATION ACCEPTED		

STATUS CODE	ACTIVITY	CONTRACTOR	FLUOR	ExxonMobil
03	FIRST PUNCH	<i>Bob Paalje</i>	Floor 001	<i>[Signature]</i>
08	TESTED			
09	CLEANED			
10	REINSTATED			
14	FINAL ACCEPTANCE			

ExxonMobil

SECTION CHECKLIST PIPE WORK PRE-TEST	Form ID: F75101-1 Rev 1
Description:	Handover Pack No.:
	TO System No.:
	TO System Description:

CHECK POINTS	Subcontractor	Floor
ons of Isometrics and P&ID are in the Handover	<i>Bob Paalje</i>	Floor 001
sd according drawing. Check vents and drains, mb, welding complete etc.	<i>PP</i>	Floor 001
flange connection at pump connections	<i>PP</i>	Floor 001
quired to perform a safe hydro test has been installed (supports if required)	<i>PP</i>	Floor 001
welded on pipe (if applicable)	<i>NA-PP</i>	Floor 001
ent	<i>PP</i>	Floor 001
phs and gaskets are installed (install correctly rated sd)	<i>PP</i>	Floor 001
nd drains are installed	<i>PP</i>	Floor 001
is of in-line components	<i>PP</i>	Floor 001
ds removed for temporary spool or blind installed	<i>PP</i>	Floor 001
ms not allowed in test system are removed	<i>PP</i>	Floor 001
on impulse lines directly connected to test syste n l capped	<i>PP</i>	Floor 001
ed (if applicable)	<i>PP</i>	Floor 001
i all welding bungs (foam plugs) have been removed	<i>PP</i>	N/A
<i>valve in plastic bag hanging on</i>		

Accepted Contractor	Accepted Fluor	Accepted ExxonMobil	Accepted Third Party
<i>Bob Paalje</i>	<i>Fred. Paalje</i>	<i>Bob Paalje</i>	<i>NA</i>
2-2000	31-12-2000	31-12-2000	

Hand Over Packs (HOP)



FLUOR.

**INSPECTION CHECKLIST
THERMAL INSULATION RECORD**

HO Pack Type Code / Description: _____

Location Unit/WBS: _____

Contractor: _____

Commissioning System: _____

Barcode: _____

Form ID: F78102
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Handover Pack No.: _____

TO System No.: _____

TO System Description: _____

Check mass loaded thermoplastic sheet installed		
Check vibo acoustic seals installed		
Proper use of joint filler and/or mastic materials		
Fireproofing Insulation		
Check correct material thickness used		
Check correct insulation layers installed		
Check correct insulation of attachments		
Check each layer is independently supported		
Contraction joints at specified intervals		
Proper cradle diameter at supports		
45 degrees to vertical runs properly supported		
Proper use of joints sealer for single and multiple layer applications		
Proper taping or banding used		
Check vapor barriers		
Check metal jacketing installed according specification (Stainless Steel)		
Proper use of joint filler and/or mastic materials		

Remarks:

Accepted Contractor	Accepted Fluor	Accepted ExxonMobil	Accepted Third Party
Name: _____	_____	_____	_____
Signature: _____	_____	_____	_____
Date: _____	_____	_____	_____

FLUOR.

TRACING COMPLETION STATUS

HO Pack Type Code / Description: _____

Location Unit/WBS: _____

Contractor: _____

Commissioning System: _____

Barcode: _____

Form ID: F75601
Rev.1

Handover Pack No.: _____

TO System No.: _____

TO System Description: _____

CHECK POINT	Sub-Contractor	Fluor
Mech Tracing Complete*		
Electrical Tracing Complete*		

*Check completion status in MC Plus

Remarks:

iMobil ACTIONS

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P-017)

r

move free water

low point drains open

not plate / Chemical analysis / Other *

Accepted Contractor	Accepted Fluor	Accepted ExxonMobil	Accepted Third Party
Name: _____	_____	_____	_____
Signature: _____	_____	_____	_____
Date: _____	_____	_____	_____



RFC (Ready For Commissioning) Punch List										
HO System Desc:		Civil Work - Earthing in Caustic Unit				Tag No.: N/A				
HO System No.:		CVL04-01-25-01		DATE:		PO. No.: N/A				
Process System:		CVL04-01-25		17-Jan-18		Testpack No.: N/A				
Location/Unit:		25 - Caustic				Contractor: N/A				
A Items - Before testing / Before MC B Items - Before MC C Items - Before HP Final Acceptance D Items - Client (ExxonMobil)						Groups: CC - Construction CM - Commissioning SU - Start Up (Client)				
PL No.	Tag No	Raised By Punch Phase	Cat.	Item Description & Comments	Action By / Owner	Disc.	Required By Date	Cleared: Date / Approver	Verified: Date / Approver	Contract
HO System No: CVL04-01-25-01										
P003571	R1HC-W25-65-DW-109995	SUT023JGe 02.WD	B	Connect earthbar on south west side to cadwell plate on T6950 south foundation side and reconnect grounding cable to the earthbar	K007 032/DAL	E	31-Jan-18	<i>[Signature]</i> Fluor 032 24.01.18		K007
P003572	R1HC-W25-65-DW-109995	SUT023JGe 02.WD	B	Connect earth bar on E35A to underground grid	K007 032/DAL	E	31-Jan-18			K007
P003573	R1HC-W25-65-DW-109995	SUT023JGe 02.WD	D	69-EB-055 cadweld plate is at or below paving level not according to specifications (R1HC-W00-65-SK-077 SHT 7 DTL 2)	EXX_PMT SUT011RA	E	31-Jan-18			ExxonMobil
P003574	R1HC-W25-65-DW-109995	SUT023JGe 02.WD	C	Install protective pipe to route earthing cable (CE69008) to ladder southeast of T-6950	K007 032/DAL	E	31-Jan-18	<i>[Signature]</i> Fluor 032 24.01.18		K007
P003575	R1HC-W25-65-DW-109995	SUT023JGe 02.WD	C	Install protective sleeve for cable running above ground to 13-PS-03	K007 032/DAL	E	31-Jan-18			K007
P003576	R1HC-W25-65-DW-109995	SUT023JGe 02.WD	C	Repair damaged earth cable running E-W between 13-PS-01 and 13-PS-02	K007 032/DAL	E	31-Jan-18			K007

User: mes11034

17-Jan-18 10:19

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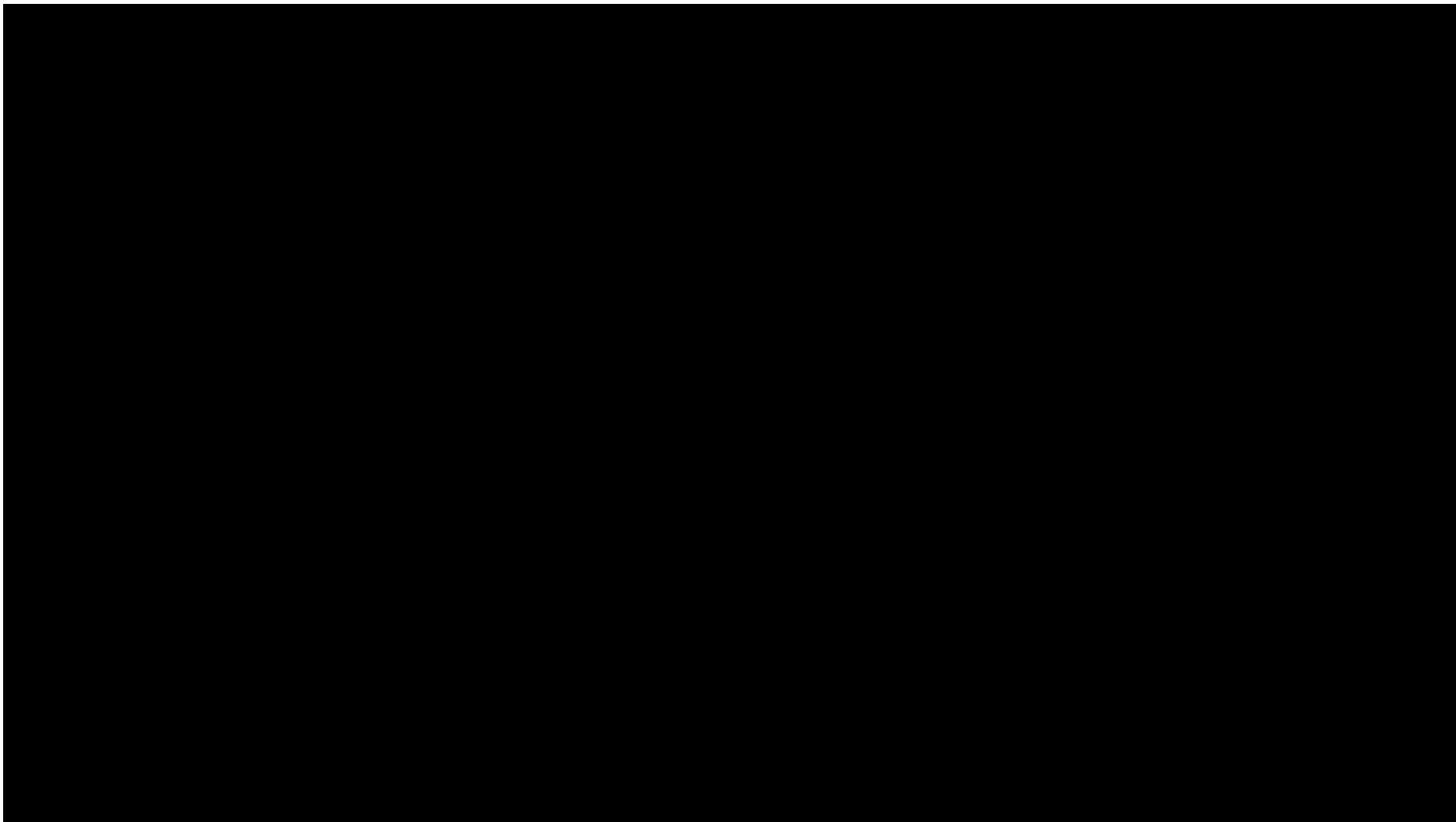
SIGNATURE FLUOR:

[Signature] Fluor 070
19/1/18

SIGNATURE ExxonMobil PMT:

SIGNATURE ExxonMobil SUT:

[Signature] EM 023
17.1.18



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