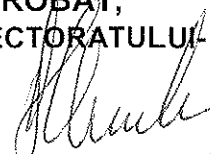


TEMA TEHNICA DE PROIECTARE


21.08.2017

1. DATE GENERALE:

- 1.1. Denumirea lucrării: Montat butoni de fluaj
- 1.2. Instalatia (serviciul) beneficiara: Aria de Productie – Sector 1
- 1.3. Amplasament: Instalatia HB-RC, HPM, F-ca H2
- 1.4. Documente si documentatii de referinta: P&ID HB-RC, HPM, F-ca H2.

2. NECESITATE SI OPORTUNITATE:

Conductele / sistemele de conducte, in urma verificarilor tehnice conform program expertiza, avand temperatura de peste 440 C, necesita montat butoni de fluaj conform cerintelor Prescriptiei tehnice aplicabile - conform Raport inspectie nr 116/04.02.2016, 118/05.02.2016, 119/05.02.2016, 121/05.02.2016,

3. PRINCIPALELE CERINTE:

- 3.1. Elaborare proiect de montat butoni fluaj.
– conform Raport inspectie nr 116/04.02.2016, 118/05.02.2016, 119/05.02.2016, 121/05.02.2016

4. DESCRIEREA SOLUTIEI PROPUSE:

- 4.1. Tehnologie: Realizarea unui proiect de montaj butoni de fluaj
– conform Raport inspectie nr 116/04.02.2016, 118/05.02.2016, 119/05.02.2016, 121/05.02.2016
- 4.2. Descrierea solutiei propuse pe categorii de lucrari:
(In cazul in care sunt necesare descrieri mai ample – schite privind amplasarea, scheme tehnologica etc – este obligatorie anexarea acestora la tema)

Se vor monta butoni de fluaj conform PT ISCIR C6-2010.

Proiectantul va stabili tipul, dimensiunea, numarul si pozitia de montaj a acestora pe conducte.

Nr. crt.	Categorii de lucrari	Descriere sumara	Documente existente	Observatii
1	Tehnologii	NU		
2	Utilaje	NU		
3	Montaj utilaj si leg. conducte	DA		
4	Constructii beton	NU		
5	Constructii metalice	NU		
6	Instalatii apa-canal	NU		
7	Instalatii electrice ²⁾	NU		
8	Instalatii AMC ¹⁾	NU		
9	Utilitati (aer, azot, apa etc)	NU		
10	Instalatii de incalzire	NU		
11	Instalatii de ventilatie	NU		
12	Mecanizare ex:grinda monorai	NU		
13	Alte facilitati	NU		
14	Devize	DA		

1) Reglari, inregistrari, semnalizari, blocari

2) Surse de putere, blocari, iluminat, avertizare P.S.I. si paza, explozimetre, telefonie, legaturi echipotentiale etc.

4.3. Dotari: _____

4.4. Deseuri, noxe si masuri de protectie a mediului: Conform normelor in vigoare pentru instalatia HB-RC, HPM-F-ca H2

4.5. Factori de risc si propuneri de masuri de tehnica securitatii muncii: Nu se modifica.

4. SURSA DE FINANTARE: BUGET PROIECTE DE REPARATIE

5. RESPONSABIL DIN PARTEA BENEFICIARULUI:

- Numele si prenumele: Manea Emilian

- Functia: Inginer tehnolog sector 1

- Telefon: _____

- Termen executie proiect: 1.09.2017

7. AVIZARE:

FUNCTIA	NUMELE SI PRENUMELE	SEMNATURA
DIR. GEN. ADJ. REPARATII SI MENTENANTA UTILAJE	Y. I. EROGOV	
TEHNOLOG SEF	CATALIN NICULESCU	17.08.17
ING. SEF ADJ. PRODUCTIE	PARNAU DANIEL	17.08.17
ING. SEF MECANIC	DENYS MAKUSHEV	
ING. SEF METROLOG	ION ENE	
ING. SEF ENERGETICIAN	MAXIM GRECOV	23.08.2017
SEF ARIE	GHEORGHE COMAN	16.08.17

SEF SIE

Alexandru Valentin

24.08.2017

Intocmit :

Ing Tehn Sector

Manea Emilian / 3752

Date initiale pentru partea Tehnologica

Utilaje statice si dinamice.

1.	Utilajele care vor fi implicate in proiect	Nu sunt
2.	Parametrii de lucru ai utilajelor	Nu este cazul
3.	Inlocuirea utilajelor	Nu
4.	Utilajele care necesita inlocuire	Nu se vor inlocui utilaje
5.	Se vor modifica parametrii de lucru ai utilajelor	Nu
6.	Parametrii de lucru ai utilajelor noi	NU
7.	Utilaje suplimentare/noi	Nu
8.	Parametrii de lucru ai utilajelor suplimentare/noi	Nu este cazul
9.	Echipamente AMC pe utilajele existente	Nu sunt necesare
10.	Echipamente AMC noi pe utilajele existente	NU
11.	Racorduri noi pentru echipamente AMC	Nu
12.	Parametrii de blocare si alarmare pentru fiecare utilaj in parte	Nu este cazul
13.	Caracteristicile sistemelor de siguranta existente.	Nu sunt necesare
14.	Necesitatea calculului componentelor interioare ale utilajului	Nu este cazul
15.	Necesitatea inlocuirii componentelor interioare existente	Nu este cazul
16.	Utilajele pentru care este necesara refacerea calculului si inlocuirea componentelor interioare.	Nu este cazul
17.	Locul amplasarii utilajelor suplimentare/noi	Nu este cazul

Legaturi Conduce

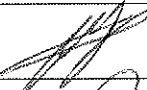
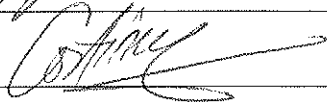
1.	Necesitatea montajului conductelor noi	Da
2.	Locul conexiunilor conductelor noi	conform schemei din Raport inspectie
3.	Parametrii de lucru ai conductelor existente care fac interconexiune cu cele noi	NU
4.	Parametrii de lucru ai conductelor noi	NU
5.	Necesitatea inlocuirii conductelor existente.	Uzura cele existente
6.	Specificatiile conductelor care se inlocuiesc	Nu este cazul
7.	Limitele inlocuirii conductelor	Nu este cazul
8.	Amplasarea conductelor	Sector 1
9.	Traseul conductei	conform schemei din Tema tehnica
10.	Existenta spatiului liber pe estacada necesar amplasarii conductei	NU
11.	Necesitatea constructiei estacadelor noi	Nu este cazul

	Lista documentatiei obligatorii pentru partea de Tehnologie
	- desenele ale utilajelor existente - cartile tehnice ale utilajelor existente

	- plan amplasare a utilajelor .
	- plan zonare.

Toate campurile evidentiare cu rosu sunt obligatorii.

RESPONSABIL DIN PARTEA BENEFICIARULUI:

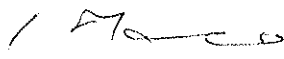
FUNCTIA	NUMELE SI PRENUMELE	SEMNATURA
ING. TEHNOLOG SECTOR 1 PRODUCTIE	MANEA EMILIAN	
SEF INSTALATIE DAV3- HPM-F-ca H2	ONCIU VALENTIN	
SEF INSTALATIE HB-RC- FG-IZOMERIZARE	COSTINAS RADU	

Date initiale pentru partea Automatizari.

1.	Tipul echipamentelor AMC in conformitate cu cerintele tehnologice	Conform Anexei
2.	Necesitatea efectuarii calculelor de verificare a echipamentelor AMC	Nu
3.	Necesitatea inlocuirii echipamentelor	Se vor cuprinde demontarea ,remontarea si punerea in functiune a echipamentelor existente pe aceste conducte ,iar in cazul schimbarii de clase ,racorduri acestea trebuiesc sa fie cuprinse in proiect .
4.	Necesitatea si tipul incalzirii echipamentelor AMC	In functie de cele existente
5.	Propunerea schemei logice al alarmelor si blocurilor	Nu este necesara
6.	Necesitatea extinderii DCS	Nu
7.	Modalitatea amplasare cabluri AMC	Conform existent
8.	Necesitatea extinderii SCADA	Nu este cazul
9.	Modalitatea amplasare cabluri SCADA	Nu este cazul
10.	Producator SCADA	Nu este cazul
Lista documentatiei obligatorii pentru partea de AMC si Automatizari		
Specificatii tehnice regulator de temperature diferentiala		

Toate campurile evidentiata cu rosu sunt obligatorii.

RESPONSABIL DIN PARTEA BENEFICIARULUI:

FUNCTIA	NUMELE SI PRENUMELE	SEMNATURA
ING. SEF METROLOG	ION ENE	
ING. TEHNOLOG SECTOR 1 PRODUCTIE	MANEA EMILIAN	
SEF INSTALATIE DAV3- HPM- F-ci H2	ONCIU VALENTIN	

S.C. PETROTEL-LUKOIL S.A.
BIROU INSPECTIE ECHIPAMENTE - FIABILITATE

APROBAT,
INSPECTOR SEF - SEF BIE - FIABILITATE
ALEXANDRU VALENTIN

RAPORT DE INSPECTIE

Nr : 121 Data : 05.02.2016

1. INSTALATIA : HPM
2. ECHIPAMENT : Conducte expertizate
3. PARAMETRI :

Conducta / Sistem conducte	Parametrii conform proiect :
N - 06 - PGH - 004 - 450	P = 77bar; T = 460 °C; Fluid = motorina, gaze; Material : ASTM A335 P5

4. DEFECTIUNI CONSTATATE :

4.1. Conductei N - 06 - PGH - 004 - 450, in urma verificarilor tehnice conform program expertiza, avand temperatura de peste 440 °C, ii trebuie montate butoni de fluaj conform cerintelor Prescriptiei tehnice aplicabile.

Anul punerii in functiune : 1975

5. CAUZE POSIBILE : uzura normala

6. REMEDIERE DEFECTIUNI :

- 6.1. Se vor monta butoni de fluaj in baza unui proiect de reparatie intocmit de firma reparatoare conform PT ISCIR C6-2010.
6.2. Proiectantul va stabili tipul, dimensiunea, numarul, si pozitia de montaj a acestora pe conducta.

7. TERMEN DE REALIZARE : RK 2017

8. RECOMANDARI SUPLIMENTARE : N/A

9. DOCUMENTE ANEXATE :

- 9.1. Schema izometrica

10. INTOCMIT : RSVTI

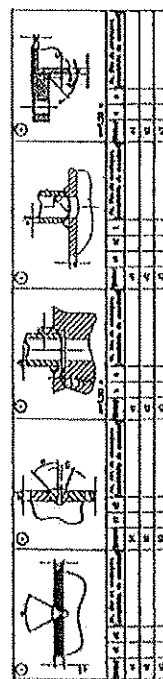
N.P. : CRISTIAN MIREL

SEMNETURA

11. AVIZAT : ING. SEF MECANIC

N.P. : MAKUSHEV DENYS

SEMNETURA



Design realized electronic (RAD)
Modifications possible for:
- In the case of a program, the SP-System

[illegible]

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KOHL'S
ADULT

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RAPORT DE INSPECTIE

Nr : 116 Data : 04.02.2016

1. INSTALATIA : F-ca H2 Nr.1
2. ECHIPAMENT : Conducte expertizate
3. PARAMETRI :

Conducta / Sistem conducte	Parametrii conform proiect :
6" - PG - 305	P = 18.6bar; T = 460 °C; Fluid = process gas; Material : SA312 TP304
6" - PG - 306	P = 18.6bar; T = 460 °C; Fluid = process gas; Material : SA312 TP304
6" - PG - 307	P = 18.6bar; T = 441 °C; Fluid = process gas; Material : SA312 TP304
6" - SIS - 6 - PG - 301/302	P = 21.4bar; T = 704.4 °C; Fluid = process gas; Material : SA312 TP304
6" - SIS - 7 - PG - 303/304	P = 18.6bar; T = 871 °C; Fluid = process gas; Material : Incoloy 800 HT SB407 UNS no 8811/9

4. DEFECTIUNI CONSTATATE :

4.1. Conductelor / sistemelor de conducte, in urma verificarilor tehnice conform program expertiza, avand temperatura de peste 440 °C, le trebuie montate butoni de fluaj conform cerintelor Prescriptiei tehnice aplicabile.

Anul punerii in functiune : 2008

5. CAUZE POSIBILE : uzura normala

6. REMEDIERE DEFECTIUNI :

6.1. Se vor monta butoni de fluaj in baza unui proiect de reparatie intocmit de firma reparatoare conform PT ISCIR C6-2010.

7. TERMEN DE REALIZARE : RK 2017

8. RECOMANDARI SUPLIMENTARE : N/A

9. DOCUMENTE ANEXATE :

9.1. Schema izometrica

10. INTOCMIT : RSVTI

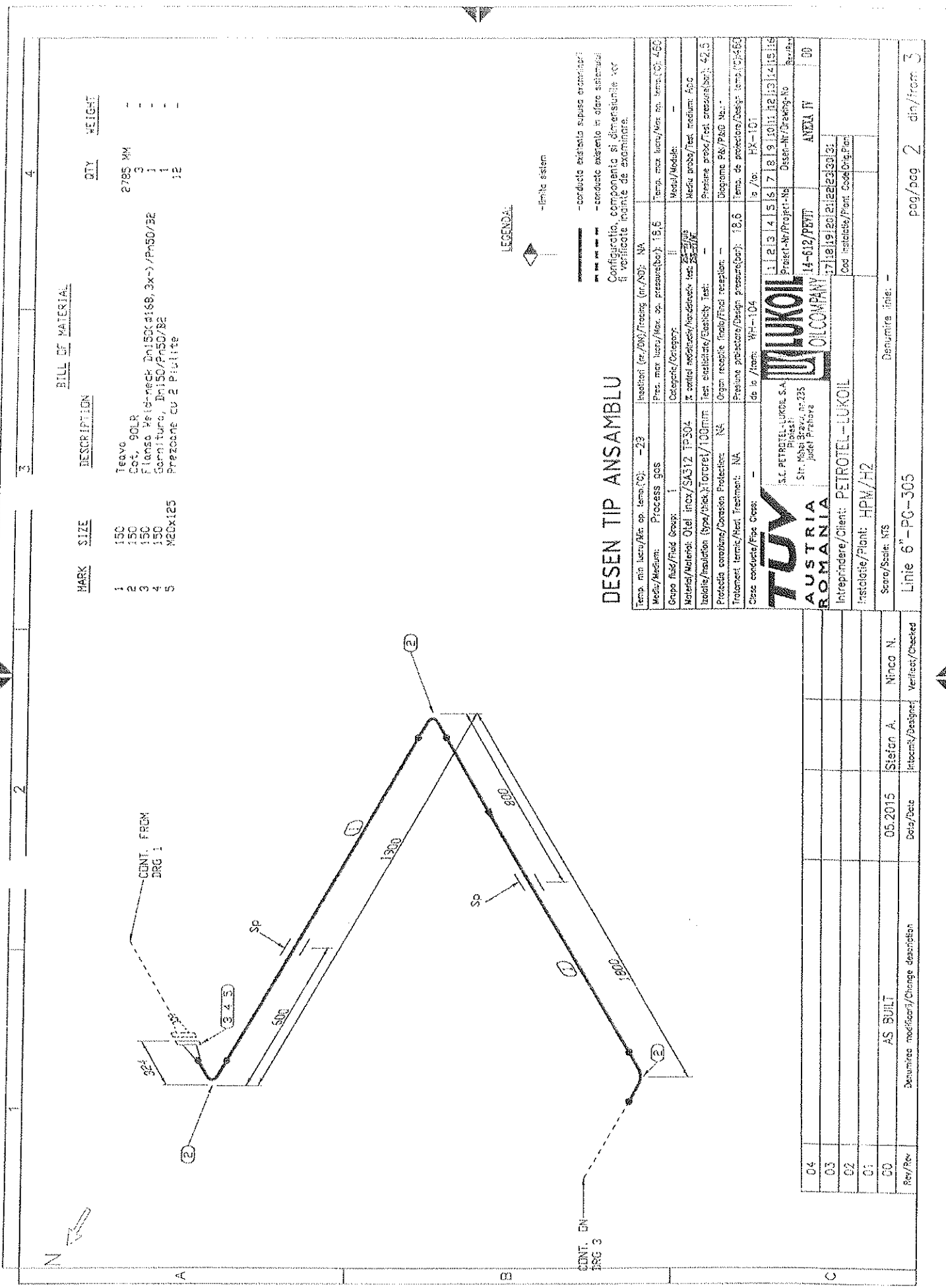
N.P. : CRISTIAN MIRIEL

SEMNATURA

11. AVIZAT : ING. SEF MECANIC

N.P. : MAKUSHEV DENYS

SEMNATURA



BILL OF MATERIAL			
MARK	SIZE	DESCRIPTION	QTY HEIGHT
1	150	Teava	2785 MM
2	150	Cot. 90LR	3
3	150	Flansa 4x6 neck Dn150xPn160, 3x-/Pn50/32	1
4	150	Garnitura, Dn150/Pn50/782	1
5	MDx125	Prazoane cu 2 Piiute	12

DESEN TIP ANSAMBLU

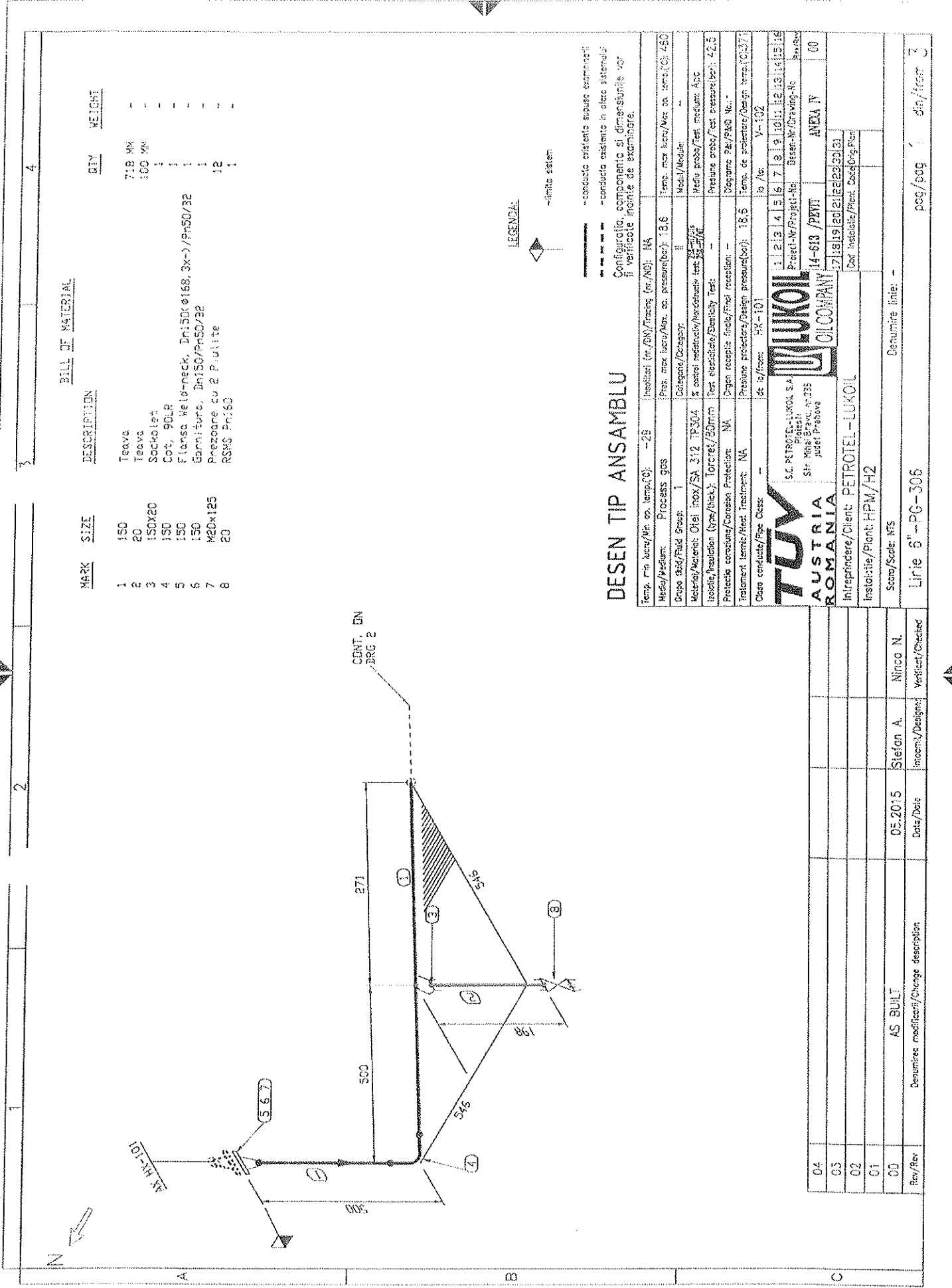
Temp. min. lucru/Mix op. tema (C): -23	Instalatori (nr./ora)/Trecare (nr./ADP): NA	Temp. max. lucru/Mix op. tema (C): 450
Mediu/Medium: Process gas	Pres. max. lucru/Mix op. presiune(bar): 18,6	Modul/Module:
Grupa fluid/Fluid Group: 1	Categorie/Categorie:	
Material/Material: Otel inox/S312 TP304	in controlul medietatii/medietatii test Sp. 200	Media proba/Test medium: AGC
Isolatie/Insulation (type/thick./mm): 100mm	Test elasticitate/Elasticity Test:	Presiune proba/Test pressure(bar): 42,5
Protectia corozie/Corrosion Protection: NA	Organ receptie finala/Final reception:	Diagrama P&ID No.:
Tratament termic/Heat Treatment: NA	Presiune proiectare/Design pressure(bar): 18,6	Temp. de proiectare/Design temp. (C): 450
Clasa conducta/Pipe Class:	de la /from: WH-104	la /to: PX-101

TUV AUSTRIA ROMANIA		S.C. PETROTEL-LUKOIL S.A.	
Intreprindere/Client: PETROTEL-LUKOIL		Str. Mihai Bravu, nr. 235	
Instalatie/Plant: HPW/H2		Județul Prahova	
Scara/Scale: NTS		Denumirea liniei: -	
Linie 6" - PG-305		pag/pag 2 din/from 3	

Rev/Rev	Denumirea modificarii/Change description	Data/Date	Intocmit/Designed	Verificat/Checked
04				
03				
02				
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00	AS BUILT	05.2015	Stefan A.	Ninco N.



pag/pag 3 din/rom 3



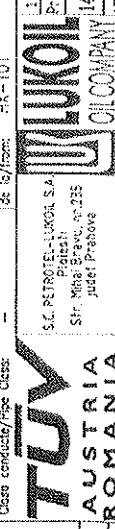
BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY	WEIGHT
1	150	Teava	718 MM	-
2	20	Teava	100 MM	-
3	150X20	Sockolet	1	-
4	150	Cot, 90LR	1	-
5	150	Flansa Weld-neck, Dn:50(ø168, 3x-)/P=50/32	1	-
6	150	Garnitura, Dn:50/P=50/32	1	-
7	M20x125	Prezoare cu 2 P-ulite	12	-
8	20	RSWS Pn:60	1	-

DESEN TIP ANSAMBLU

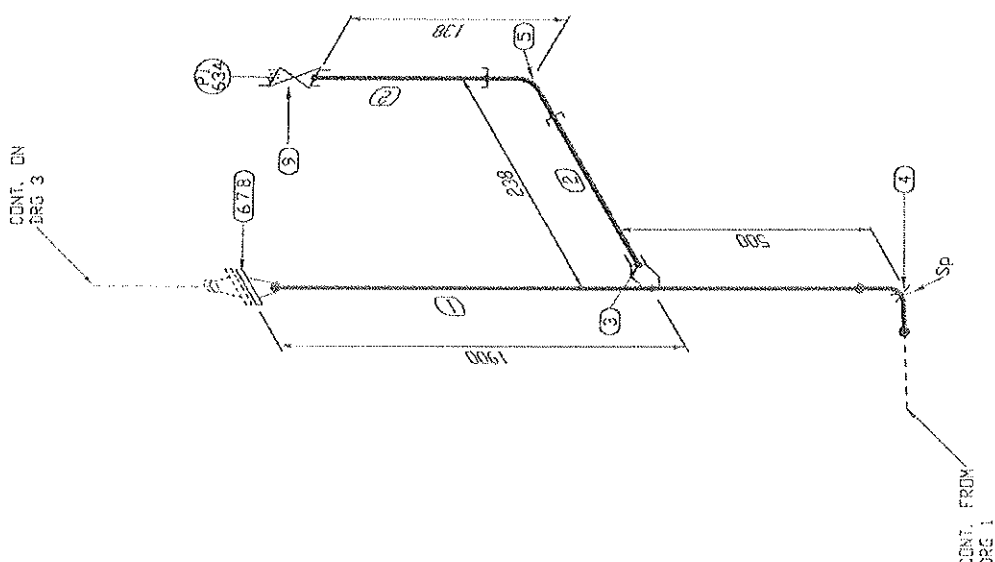
Temp. min. lucr./Min. op. temp. (°C):	-25	Insulati (tr./DN)/Tracing (tr./DN):	NA	Temp. max. lucr./Max. op. temp. (°C):	450
Mediu/Medium:	Process gas	Pres. max. lucr./Max. op. pressure (bar):	13.6	Modul/Module:	-
Grupa fluid/Fuild Group:	1	Categorie/Categorie:	II	Mediu proba/Test medium:	APC
Material/Material:	Otel inox/SA 312 TP304	% control nedetectat/Nondetectable test:	25-50%	Presiune proba/Test pressure (bar):	42.5
Insulati/Insulation (type/thick):	Torcret/30mm	Test elasticitate/Elasticity Test:	-	Diagrama 24/P&ID No.:	-
Protectie coroziona/Corrosion Protection:	NA	Organ receptia finale/Final reception:	-	Temp. de proiectare/Design temp. (°C):	37
Tratament termic/Heat Treatment:	NA	Presiune proiectare/Design pressure (bar):	18.5	Temp. de proiectare/Design temp. (°C):	37
Clasa conducta/Pipe Class:	-	de la/From:	15-101	la/till:	V-102

TUV AUSTRIA ROMANIA		S.C. PETROTEL-LUKOIL S.A.		Ploiesti		Str. Mihai Bravu, nr. 235		Judet Prahova	
Intreprindere/Client: PETROTEL-LUKOIL		Instalatie/Plant: HPM/H2		Denumire linie: -		Sens/Scale: NTS		Linie 6" - PG-306	
Data/Date: 05.2015		Stefan A.		Mircea N.		Verificat/Checked:		pag./pag 1 din/total 3	



LEGENDA:
- limita sistem

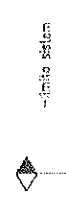
- conducta existenta subsose existente
- conducta existenta in stare sistemului
Configuratia, componenta si dimensiunile vor fi verificate inainte de examinare.



BILL OF MATERIAL		
DESCRIPTION	QTY	WEIGHT
Teava	2076 MM	-
Teava	200 MM	-
Socolat	1	-
Cot. 90LR	1	-
Cot. mufa soclu, 90LR	1	-
Flansa Weld-neck DN150/PN50/B2	1	-
Garnitura DN150/PN50/B2	1	-
Prezane cu 2 piulite	1	-
RMS PN160	1	-

MARK	SIZE
1	150
2	15
3	150X15
4	150
5	15
6	150
7	150
8	M20x125
9	15

LEGENDA:



— conducte existente sau de examinare
 - - - - - conducte existente in cist. sistemului
 Configuratia, componenta si dimensiunile vor fi verificate înainte de executare.

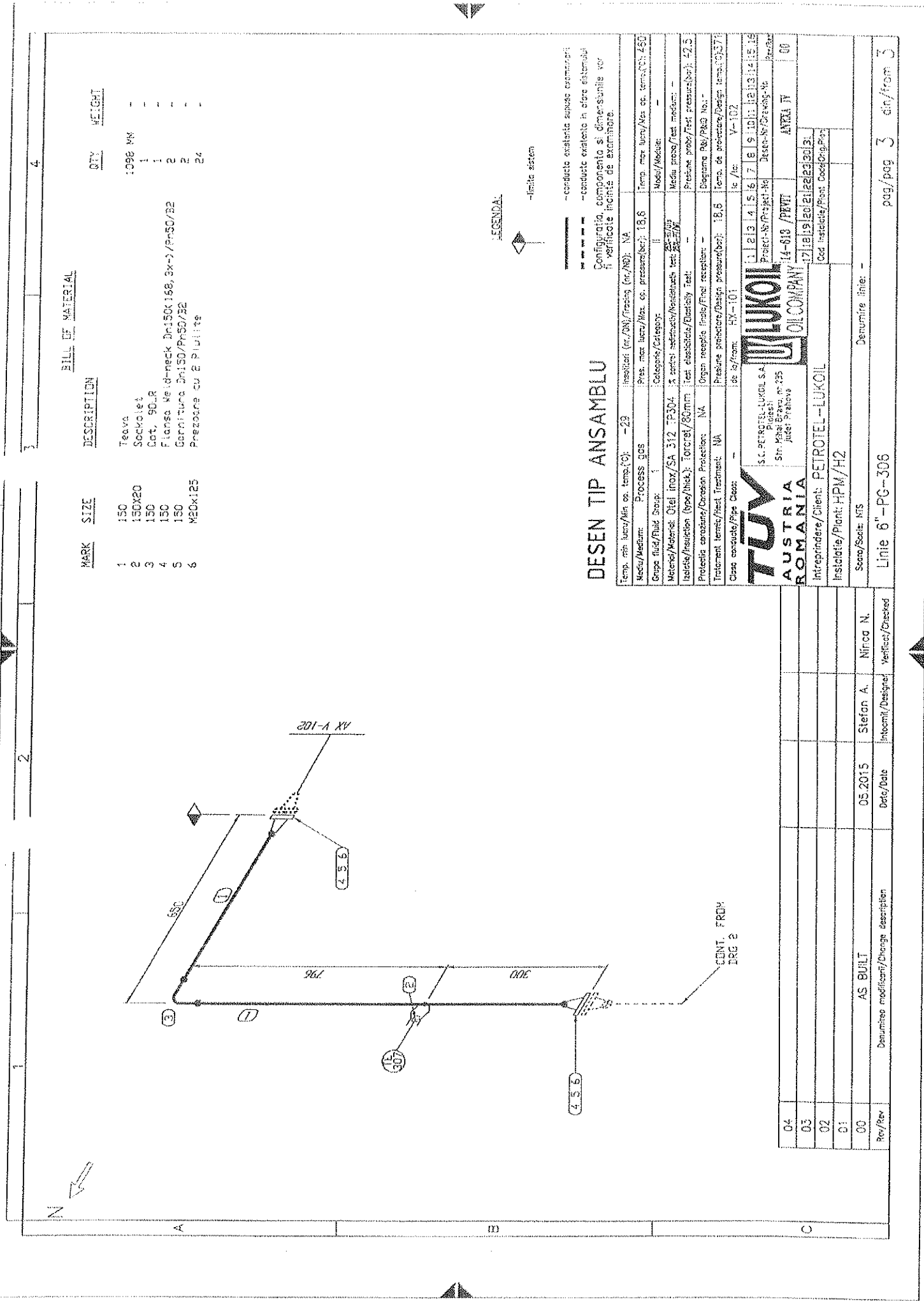
DESEN TIP ANSAMBLU

Temp. min. lucru/Mix op. temp. (C):	-23	Incaltat (m./DN):	NA	Temp. max. lucru/Max. op. temp. (C):	150
Mediu/Medium:		Pres. max. lucru/Var. op. pressure (bar):	18.5	Modul/Module:	
Grup fluid/Fluid Group:	1	Categorie/Categorie:	II	Mediu probe/Test medium:	
Materie/Material:	Otel inox/SA 312 TP304	% carboni neodioxidati/Nonoxidized carb:	25-27%	Presiune probe/Test pressure (bar):	42.5
Isolatie/Insulation (type/thick.):	Torcret/50mm	Test realizat/Test Realized Test:		Program probe/Test Program:	
Protectia coroziv/Corrosion Protection:	NA	Organ receptie final/Final reception:		Temperatura probe/Test temperature (C):	37
Tratament termic/Heat Treatment:	NA	Presiune proiectare/Design pressure (bar):	18.5	Temperatura proiectare/Design temperature (C):	102
Clasa conductiv/Pipe Class:		de la/from:	PX-101		

S.C. PETROTEL-LUKOIL S.A.
 Str. Mihai Bravu, nr 235
 Judeb. Prahova

14-613 / PETIT
 17181912012122123131

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Rev/Rev	AS BUILT	05.2015	Stefan A.	Ninca N.	Verificat/Checked
Denumirea modificarii/Change description					
Data/Data					
Informații/Designer					
Denumire linie: -					
Scara/Scale: NTS					
Instalatie/Pont: HPM/H2					
Intreprindere/Client: PETROTEL-LUKOIL					
Cod Instalatie/Pont Code/Design					
ANEXA IV					
00					



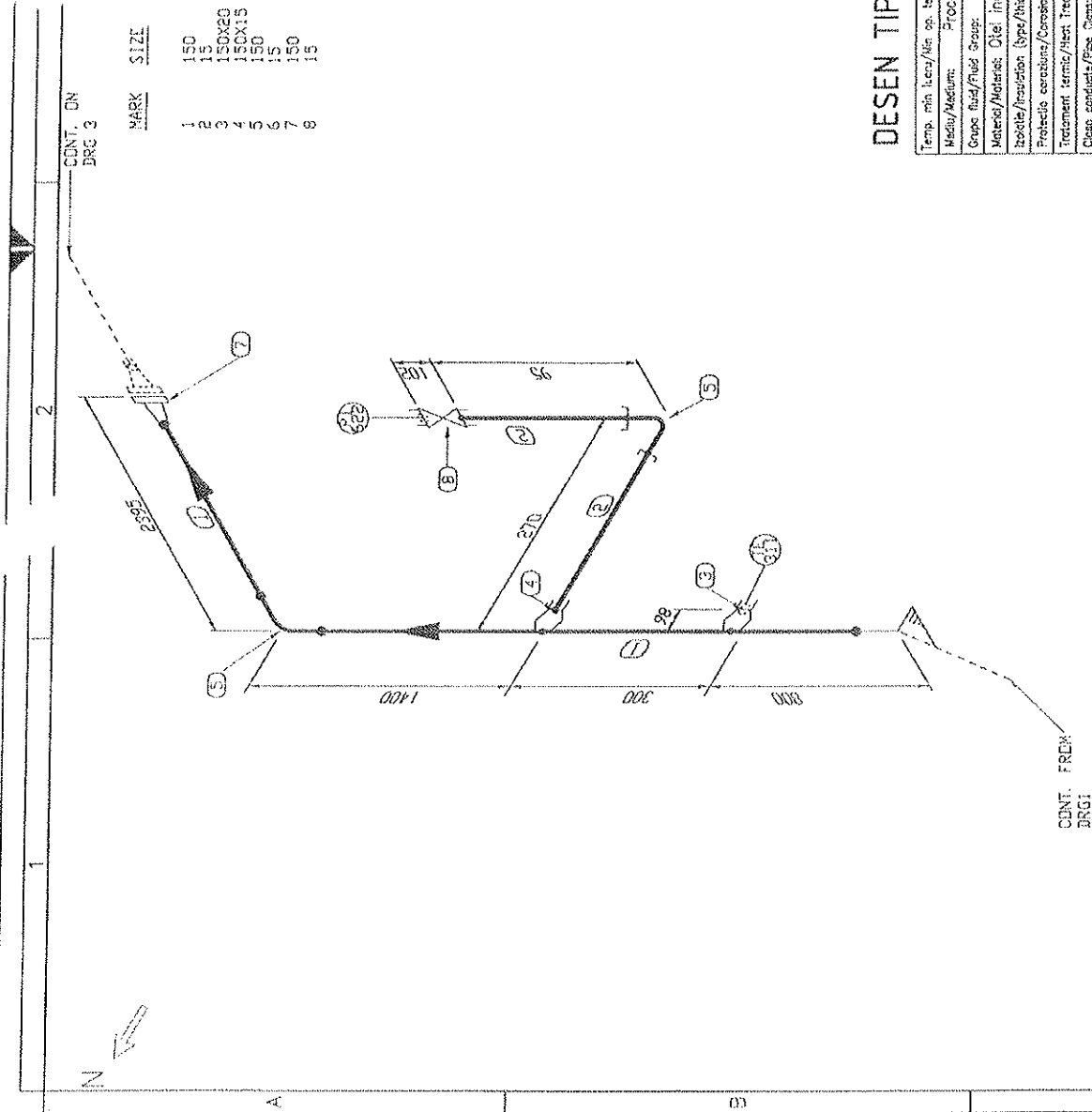
BILL OF MATERIAL			
MARK	SIZE	DESCRIPTION	QTY WEIGHT
1	150	Teava	1096 MM
2	150X20	Soculet	1
3	150	Dot. 90LR	1
4	150	Flansa Re d-neck Dn150x168, 3x-3/Pn50/32	2
5	150	Garnitura Dn150/Pn50/32	2
6	M20x125	Prezoane cu 8 Pivote	24

DESEN TIP ANSAMBLU

Temp. min. lunc./Min. op. temp. (°C):	-23	Insulati (tr./DN):	NA	Temp. max. lunc./Max. op. temp. (°C):	450
Mediu/Medium:	Process gas	Pres. max. lunc./Max. op. pressure (bar):	18,6	Mod./Module:	-
Grupa fluid/Fluid Group:	1	Categorie/Categorie:	II	Media proba/Test medium:	-
Material/Material:	Ofel inox/SA 312 TP304	% carboni nedioxidizati/Nitridizati test:	25-50/0	Presiune proba/Test pressure (bar):	42,5
Isolatie/Insulation (type/thick):	Torcret/80mm	Test elasticitate/Elasticity Test:	-	Diagrama Pn/Pn50 No.:	-
Protectia caruturii/Corrosion Protection:	NA	Organ receptor/Design temperature:	-	Temp. de proiectare/Design temp. (°C):	57
Treatment lunc./Heat Treatment:	NA	Presiune proiectare/Design pressure (bar):	18,6	de la/to: V-102	-
Clasa conducte/Pipe Class:	-	de la/to: V-101	-	de la/to: V-102	-
TÜV AUSTRIA ROMANIA					
S.C. PETROTEL-LUKOIL S.A. Ploiesti Str. Matei Gheorghe nr. 235 Judet. Ploiesti					
LUKOIL OIL COMPANY					
14-618 /PEVI					
17/18/19/20/21/22/23/30/31					
Cod proiect/Project Code: 00					
Cod proiect/Project Code: 00					
Intreprindere/Client: PETROTEL-LUKOIL					
Instalatie/Plant: HPM/H2					
Scara/Scale: KTS					
Denumire linie: -					
Rev/Rev	AS BUILT	Date/Date	05.2015	Intocmit/Designed	Nicoia N.
Denumirea modificarii/Change description					
pag./pag 3 din/rom 3					



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BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY	WEIGHT
1	150	Teava	4115 MW	-
2	15	Teava	185 MW	-
3	150X20	Socket	1	-
4	150X15	Socket	1	-
5	150	Dot 90LR	1	-
6	15	Dot 90LR	1	-
7	15	Dot 90LR	1	-
8	150	Flansa Weld-neck Dn150x168, 3-1/Pn50	1	-
	15	RMS Dn15/Pn160	1	-

DESEN TIP ANSAMBLU

Temp. min. lera/Min op. Temp.(C):	-29	Insolati (r./DN)/Tracing (r./DN):	NA	Temp. max. lera/Max op. Temp.(C):	44
Mediu/Medium:	Process gas	Pres. max. lera/Max op. pressure(bar):	18.5	Modul/Module:	-
Grupa fluid/Fluid Group:	1	Categorie/Category:	II	Mediu probe/Test medium:	Ag
Materie/Material:	Ole. Inox SA312 TP304	% corol neelasticity/Nonelasticity test:	25-70%	Presiune probe/Test pressure(bar):	42
Isolatie/Insulation (type/thick):	Tarcat/100mm	Test elasticity/Elasticity Test:	-	Diagrama P&ID No.:	-
Protectia coruturii/Corrosion Protection:	NA	Origen recepitie (rpt)/Final reception:	-	Tempe. de proiectare/Design Temp.(C):	44
Treatment termite/Heat Treatment:	NA	Presiune proiectare/Design pressure(bar):	18.5	La conducte/for. WP:	105
Ciclu conducte/Free Data:	-	de la/From:	V 102		

TUV	LUKOIL
S.C. PETROTEL-LUKOIL S.A.	Oil Company
Sibiu	14-614/PEHT
Str. Mihai Bravu, nr. 235	17181912012122330321
Județul Arad	Code Insolatia/Plant Code/Insolat.
AUSTRIA	
Intreprindere/Client: PETROTEL-LUKOIL	
Instalatia/Plant: HPM/H2	
Scara/Scale: m/s	Denumire linie: -

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Rev/Rev	AS BUILT	Date/Date	05.2015	Stefan A.	Nico N.
	Desen modificat/Change description			Intenat/Designed	Verificat/Checked

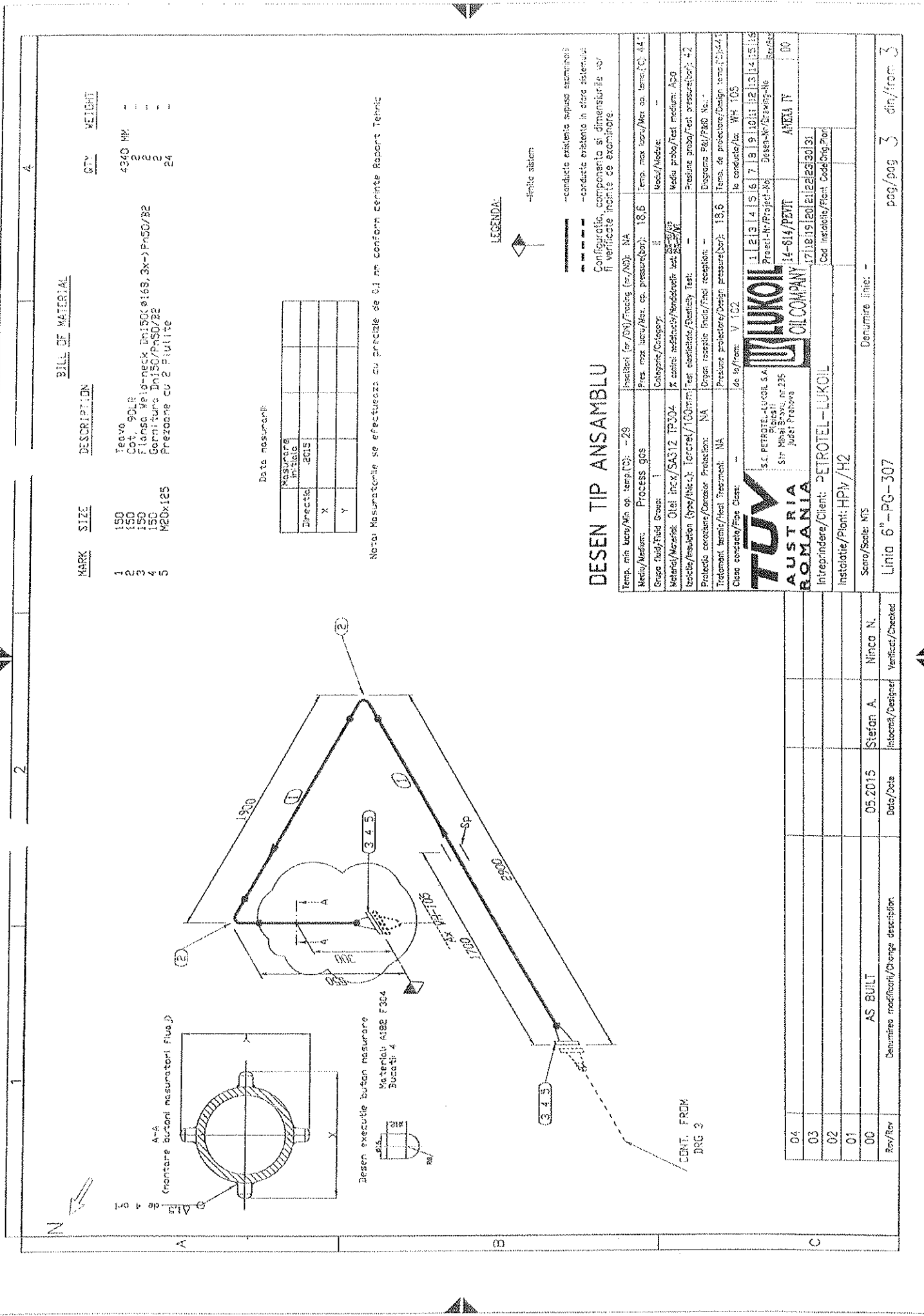
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LEGENDA:



- conducte existente sau proiectate
- conducte existente la alte sisteme
- componente si dimensiunile lor
- verificat inainte de executare



BILL OF MATERIAL		
MARK	SIZE	DESCRIPTION
1	150	Teava
2	150	Cot 90°
3	150	Flansa 160x160x160, 3x-Pn50/32
4	150	Carburant 160x160x160
5	M20x125	Prezoane cu 2 file

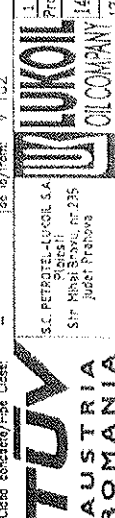
DATA MASURARII		
Masurarea		
Directia		
X		
Y		

Nota: Masuratorile se efectueaza cu precizie de 0,1 mm conform Cerintei Raport Tehnic

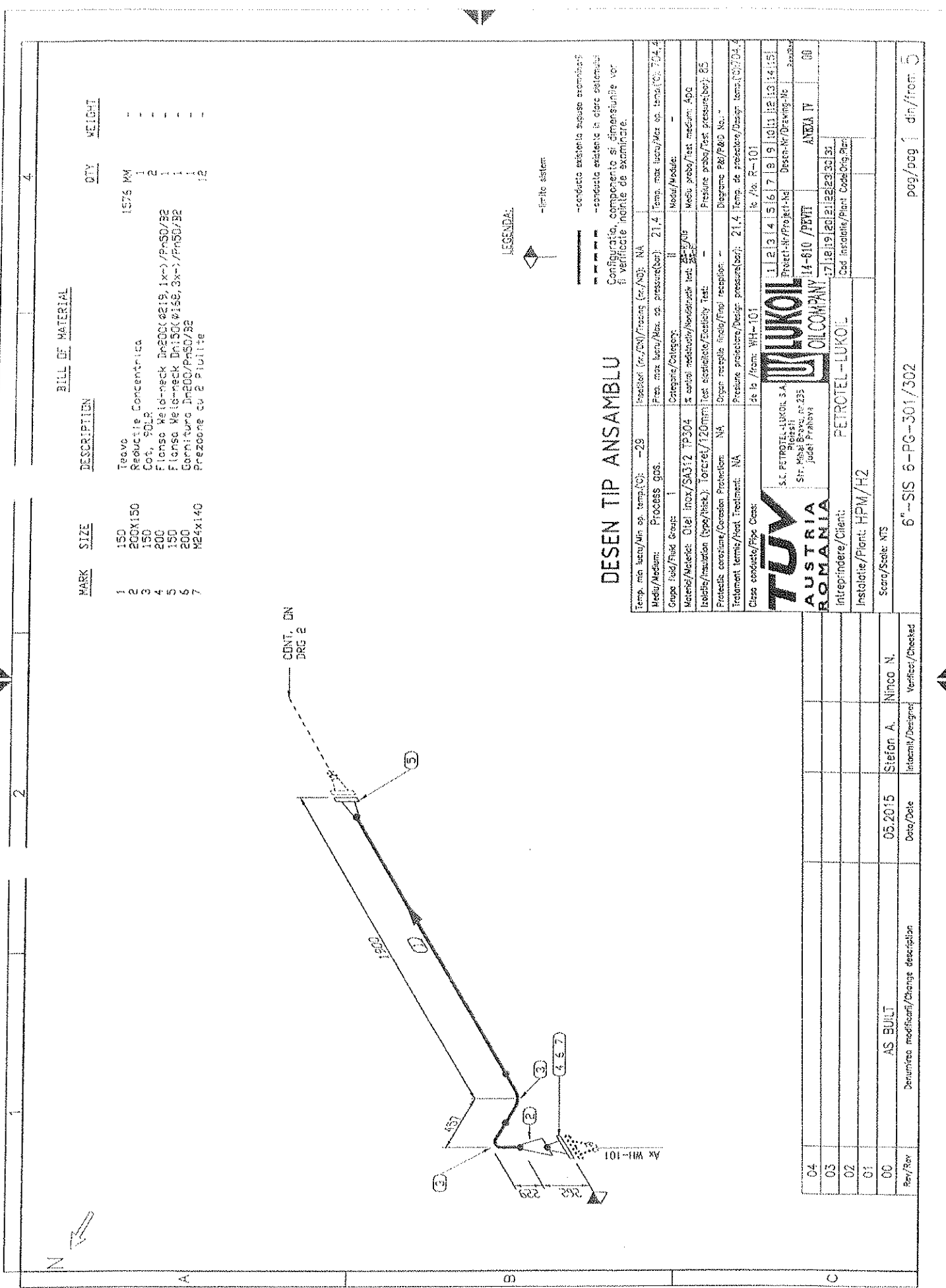
LEGENDA		
---	- conducte existente asupra examinarii	
---	- conducte existente in etape sistemului	
---	- configuratie, componente si dimensiuni ale	
---	si verificatie inainte de examinarea	

DESEN TIP ANSAMBLU		
Temp. min. la care se poate opera	-29	
Mediu/Medium	Process gas	
Grupa fluid/Fluid Group	1	
Material/Material	Q195	
Isolatie/Insulation	100mm	
Procedura de montaj/Assembly	NA	
Tratament termic/Heat Treatment	NA	
Clasa conductelor/Class	V	
de la/From	102	
de la/From	105	
de la/From	108	
de la/From	110	
de la/From	112	
de la/From	114	
de la/From	116	
de la/From	118	
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de la/From	142	
de la/From	144	
de la/From	146	
de la/From	148	
de la/From	150	

04	AS BUILT	05.2015	Stefan A.	Ninca N.	Verificat/Checked
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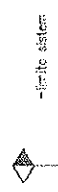
Intreprindere/Customer	PETROTEL-LUKOIL
Instalatie/Plant	HPV/H2
Serie/Scale	NTS
Denumire linie	



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY	WEIGHT
1	150	Taava	1575 MM	-
2	200X150	Reductie Concentrica	1	-
3	150	Cap. SOLR	2	-
4	200	Flansa Weld-neck Dn200(ø219.1x-)/Pn50/32	1	-
5	150	Flansa Weld-neck Dn150(ø168.3x-)/Pn50/32	1	-
6	200	Garnitura Dn200/Pn50/32	1	-
7	M24X140	Prezoane cu 2 Piulițe	12	-

LEGENDA



- conducție existentă supuse examinării
- conducție existentă în clasa sistemului
- Configurație, componente și dimensiunile vor fi verificate înainte de asamblare.

DESEN TIP ANSAMBLU

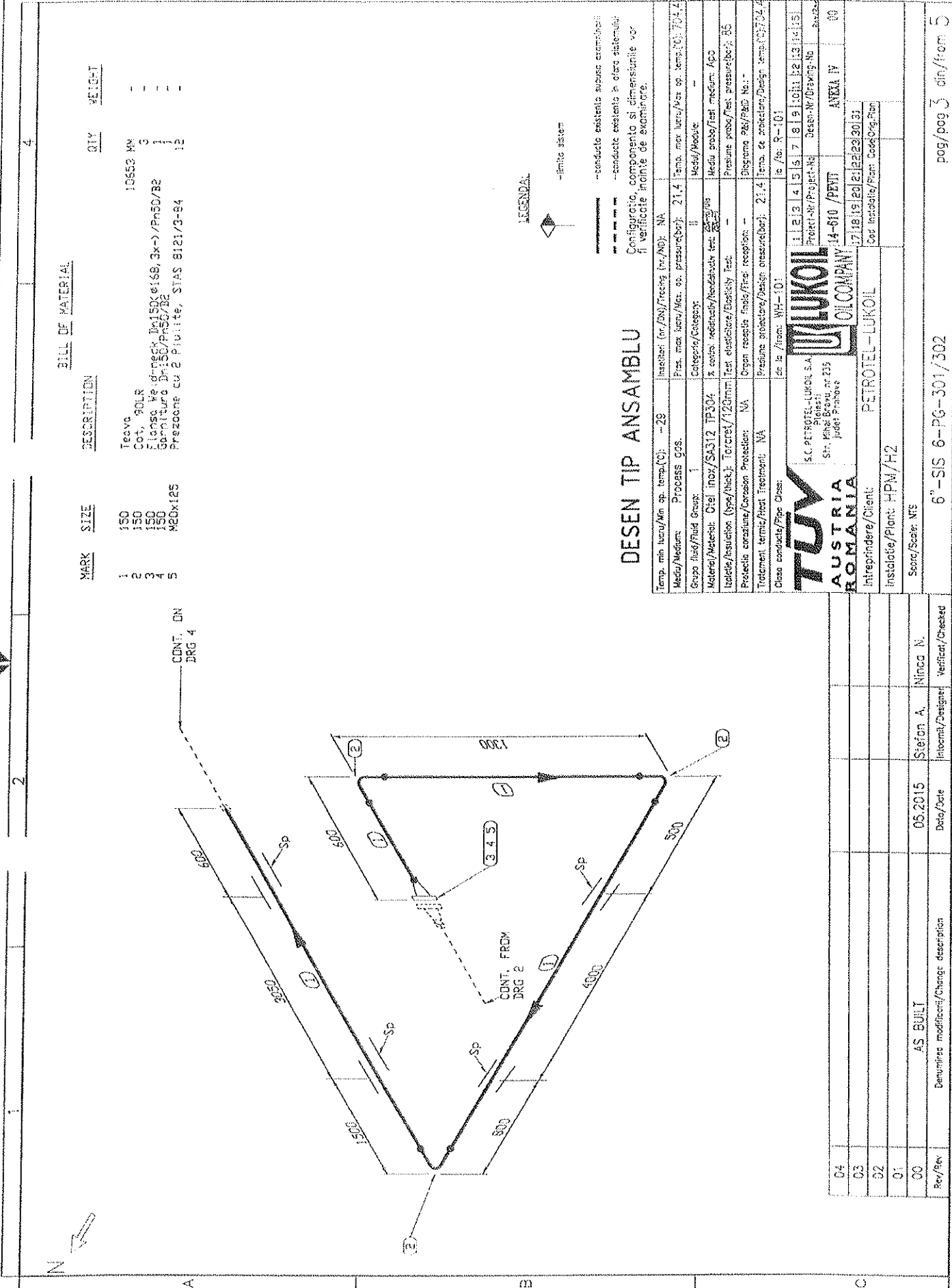
Temp. min lucru/Min op. temp. (C):	-29	Instalatori (nr./ora) /Finisaj (nr./ora):	NA	Temp. max lucru/Max op. temp. (C):	70/4
Mediu/Medium:	Process gas.	Pres. max lucru/Max. op. pressure (bar):	21.4	Modul/Module:	-
Grupa fluid/Fluid Group:	1	Categorie/Categorie:	II	Mediu probei/test medium:	Apq
Materie/Material:	Otel inox/S312 TP304	% carboni radiolitic/radiolitic test:	50/50	Presiune probei/test pressure (bar):	85
Isolatie/Insulation (type/thick):	Forcex/120mm	Test asistat/Assisted Test:	-	Diagrama P&ID No.:	-
Protecție corozivă/corrosion Protection:	NA	Organ recepție final/Final reception:	-	Diagrama P&ID No.:	-
Treatment termic/Heat Treatment:	NA	Presiune proiectare/Design pressure (bar):	21.4	Temp. de proiectare/Design temp. (C):	70/4
Clasa conductiv/Pipe Class:	de la /from: WH-101	de la /from: R-101			

TUV AUSTRIA ROMANIA
S.C. PETROTEL-LUKOIL S.A.
Str. Mihai Bravu, nr. 235
Județul Prahova

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Proiect-Nr./Project-No:										Desen-Nr./Drawing-No:				
14-810 /REVIT										ANEXA IV				
17/18/19/20/21/22/23/30/31										Cod Instalatie/Plant Code/Inst. No.				

Intreprindere/Client:	PETROTEL-LUKOIL
Instalatie/Plant:	HPM/H2
Scara/Scale:	NTS

Rev/Rev	Denumirea modificării/Change description	Data/Date	Intențuit/Designed	Verificat/Checked
00	AS BUILT	05.2015	Stefan A.	Ninco N.



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY	WEIGHT
1	150	Teava	10652 MM	-
2	150	Cot, 90LR	3	-
3	150	Flansa Weld-neck, PN150(150, 3x3)/PN50(B2	1	-
4	150	Capătura DN150/PN50(B2	1	-
5	420x125	Presoane cu 2 Pivote, STAS 8121/3-84	12	-

DESEN TIP ANSAMBLU

Temp. min lucr/Min op. temp.(C):	-28	Instalat (nr./DN)/Trecut (nr./DN):	NA	Temp. max lucr/Max op. temp.(C):	70/44
Mediu/Medium:	Proces G2S	Pres. max lucr/Max. op. pressure(bar):	21.4	Mediu/Medium:	-
Grupa fluid/Fluid Group:	1	Categorie/Category:	II	Mediu probe/Test medium:	APD
Materie/Material:	Otel Inox/S312 TP304	% carbon mediu/medium/medium test:	0.025/0.03	Presiune probe/Test pressure(bar):	35
Isolatie/Insulation (type/thick):	Torcret/120mm	Test elasticitate/Elasticity Test:	-	Diagrama P&ID No.:	-
Protectie corozivare/Corrosion Protection:	NA	Organ receptiv final/Final reception:	-	Terma. de proiectare/Design termal(CO2):	44
Tratament termic/Heat Treatment:	NA	Procedura proiectare/Design procedure:	21.4	le /No. R-101	-
Clasa conductivitate/Type Class:	-	de la /from:	WH-101		

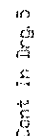
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 S.C. PETROTEL-LUKOIL S.A.
 Str. Mihai Bravu nr 235
 Județul Prahova

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Scale/Scale: NTS

6"-SIS 6-PG-301/302

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00	AS BUILT	05.2015	Stefan A.	Ninca N.
Rev/Rev	Denunries modified/Change description	Date/Date	Informant/Designer	Verifies/Checked



100

5-8-92

-condotto esistente all'uso esclusivo
 -condotto esistente in loco esistente

Configurato, componente si dimensionare per
 il verificato in ante di esaminare.

DESEN TIP ANSAMBLU

Temp. min. burst/min. on temp. (°C): -25	Insulator (nr./m²) / Facing (m./m²): NA
Media / Medium: Process gas	Pres. max. burst / Max. op. pressure (bar): 18,6
Group: 1	Category: II
Group field / Field Group:	Media / Media: Moduli Moduli:
Material / Material: epoxy board 59	Media / Media: Final medium: APC
Size / Size: 407 mm x 281 mm	Pressure proof / Test pressure (bar): 8,5
Insulation (type / thick.) / Joints: 120 mm	Test elasticty / Elasticity test:
Insulation (cm / inch) / Protection: NA	Organ receipt finish / Final reception: -
Products (cm / inch) / Corrosion Protection: NA	Pressure protection / Design pressure (bar): 12,6
Treatment (type / thick.) / Treatment: NA	Temp. of protection / Design temp. (°C): 87
Close contacts / Pipe Class: -	Gr. 12 / diam. R-101
	
S.C. PETROTEL-LUKOIL S.A. Project: Str. Mihai Bravu, nr. 235 Județul Prahova	
	
1-2-3-4-5-6-7-8-9-10-11-12-13-14-15 Project Nr. / Project-No: Design-Nr. / Design-No:	
14-611 / PETIT	
ANEXA IV	
17.18.19.20.21.22.23.24.30.31.	
PETROTEL-LUKOIL	
Interprindere / Client:	
Instalatie / Plant: HPM / H2	
Cod Instalatie / Plant: Code Org. Plant:	

TÜV
AUSTRIA
ROMANIA

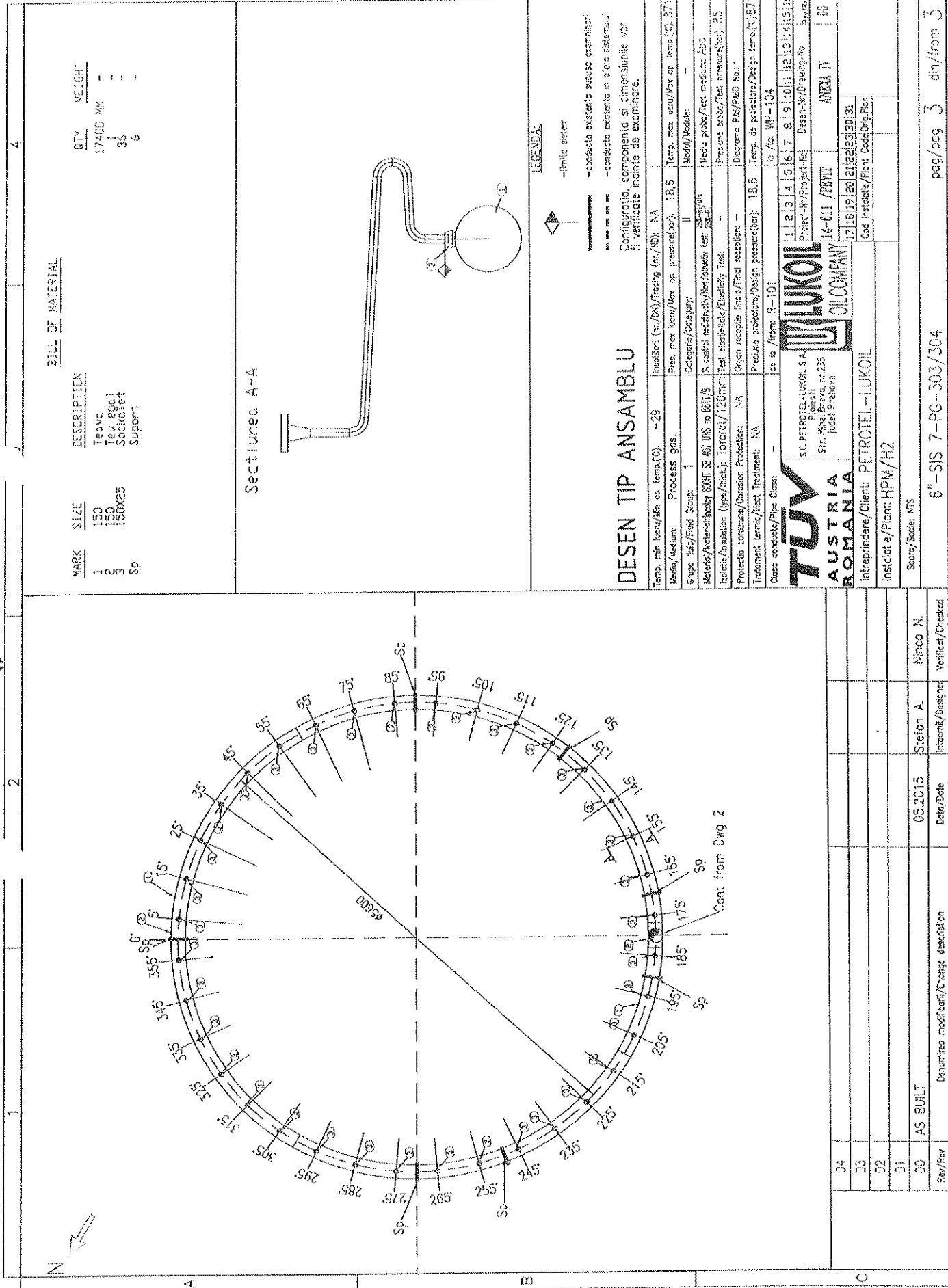
S.C. PETROL-LUKOIL S.A.
Ploiesti
Polsoil
Str. Mihai Bravu, nr.235
Judet Prahova

LUKOIL
OIL COMPANY

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Rev/rev	Denimires modificati/Change description	Date/Date	Internal/Designed	Verified/Checked

9-515-7-96-303/304

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BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY	WEIGHT
1	150	Teava	17400 MM	-
2	150	Leu egal	36	-
3	150x25	Soclalet	1	-
4	20	Support	6	-

Section A-A

DESEN TIP ANSAMBLU

Temp. min. lucru/Min op. temp. (°C)	-29	Isolatori (m./Dm)/Insulating (m./Dm)	NA	Temp. max. lucru/Max op. temp. (°C)	87
Mediu/Medium	Process gas	Pres. max. lucru/Max op. pressure (bar)	15.6	Modul/Module	-
Grupa /Grp/Fluid Group	1	Categorie/Catagory	II	Media proba/Test medium	ABO
Material/Material	800T SS 40 UNS no 181/9	% carboni neclorizati/Nonchlorinated	25.0/95	Presiune proba/Test pressure (bar)	2.5
Isolare/Insulation	Type/Sheet: Torcret/120mm	Test elasticitate/Elasticity Test:	-	Diagrama P&ID/PI&D No.:	-
Intrebari/Questions/Companion Prefabrication	NA	Origen receptie finala/Final reception:	-	Temp. de proiectare/Design temp. (°C)	18.6
Treatment termic/Heat Treatment	NA	Presiune proiectare/Design pressure (bar)	18.6	de la /from: R-101	10
Clasa conducta/Pipe Class	-	de la /from: R-101	10	de la /from: WH-104	10

TUV
AUSTRIA
ROMANIA
S.C. PETROTEL-LUKOIL S.A.
Ploiesti
Str. Mihai Bravu, nr. 235
Judet Prahova

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Project-Nr./Proiect-No															
Design-Nr./D-Design-No															
Cod. Instincte/Plant Code/Instincte															
17/18/19/20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100															
14-611 /REVIT															
ANEXA IV															
17/18/19/20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100															
Cod. Instincte/Plant Code/Instincte															

Intreprindere/Cient: PETROTEL-LUKOIL

Instincte/Plant: HPM/H2

Scale/Scara: NTS

Rev/Rev	Denumirea modificarii/Change description	Date/Date	Intenat/Designed	Nimca N.	Verifica/Checked
04					
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01					
00	AS BUILT	05.2015	Stefan A.	Nimca N.	Verifica/Checked

APROBAT,
INSPECTOR SEF - SEF BIE - FIABILITATE
ALEXANDRU VALENTIN

RAPORT DE INSPECTIE

Nr : 118 Data : 05.02.2016



1. INSTALATIA : RC
2. ECHIPAMENT : Conducte expertizate
3. PARAMETRI :

Conducta / Sistem conducte	Parametrii conform proiect :
04 - 5 - 500	P = 18.6bar; T = 543 °C; Fluid = effluent; Material : A335P11
04 - 7 - 500	P = 17.9bar; T = 543 °C; Fluid = effluent; Material : A335P11
04 - 9, 130 - 500/50	P = 16.5bar; T = 543 °C; Fluid = effluent; Material : A335P11 (10CrMo5)
04 - 131 - 50	P = 16.9bar; T = 516 °C; Fluid = effluent; Material : 10 CrMo5
04 - 133 - 50	P = 19.7bar; T = 543 °C; Fluid = Gaze+H2; Material : A335P11

4. DEFECTIUNI CONSTATATE :

4.1. Conductelor / sistemelor de conducte, in urma verificarilor tehnice conform program expertiza, avand temperatura de peste 440 °C, le trebuie montate butoni de fluaj conform cerintelor Prescriptiei tehnice aplicabile.

Anul punerii in functiune : 1975

5. CAUZE POSIBILE : uzura normala

6. REMEDIERE DEFECTIUNI :

- 6.1. Se vor monta butoni de fluaj in baza unui proiect de reparatie intocmit de firma reparatoare conform PT ISCIR C6-2010.
6.2. Proiectantul va stabili tipul, dimensiunea, numarul, si pozitia de montaj a acestora pe conducta.

7. TERMEN DE REALIZARE : RK 2017

8. RECOMANDARI SUPLIMENTARE : N/A

9. DOCUMENTE ANEXATE :

- 9.1. Schema izometrica

10. INTOCMIT : RSVTI

N.P. : CRISTIAN MIREL

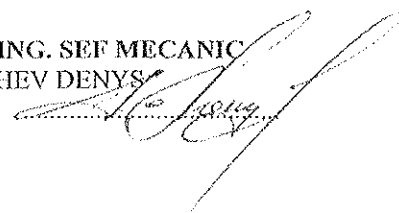
SEMNATURA



11. AVIZAT : ING. SEF MECANIC

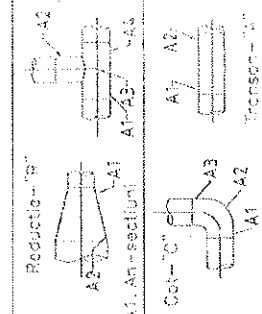
N.P. : MAKUSHEV DENYS

SEMNATURA



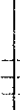
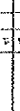
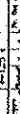
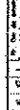


POZITIA PUNCTULOR DE CONTROL
PENTRU MASURAREA GROSIMII PERIETULUI D.D.

[illegible]

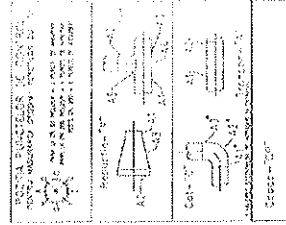
PLAY YASURATORI GROSSY

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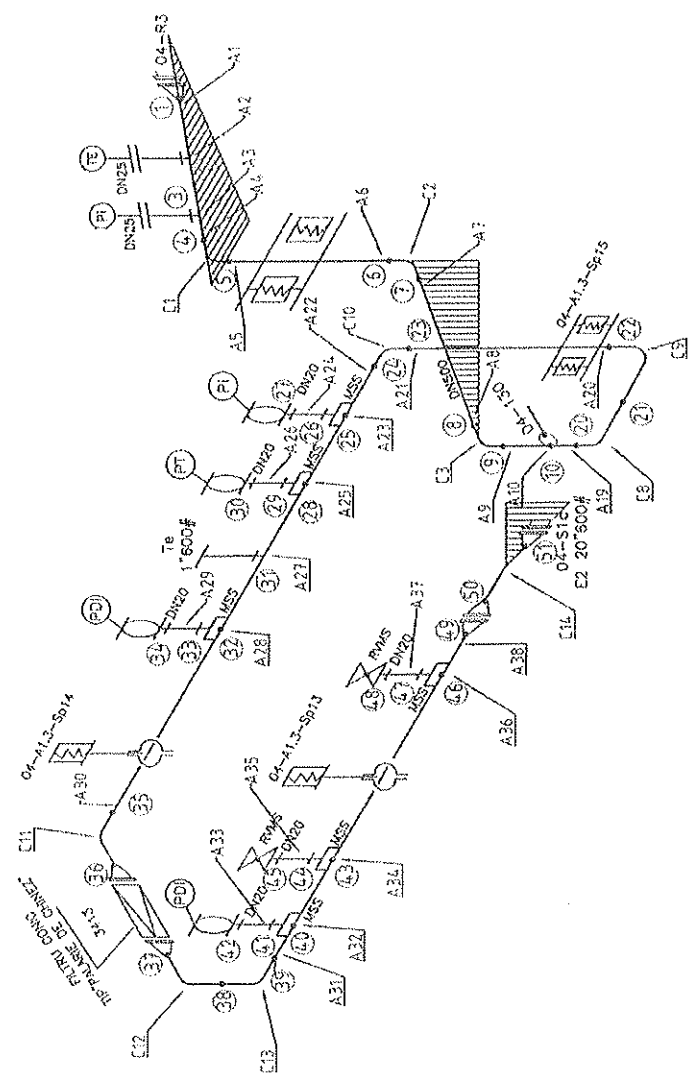
1. <i>Form</i>		2. <i>Form</i>		3. <i>Form</i>		4. <i>Form</i>		5. <i>Form</i>	
1	2	1	2	1	2	1	2	1	2
									

[illegible]

NO. DE INVENTAR	DESIGNAȚIE	UNITATE	STADIU
1	1	1	1
2	2	2	2
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03.2017
06/2019



Deget: realizat electronic (CAD)
Modificările pot fi făcute doar
prin intermediul programului SP-Isometrics

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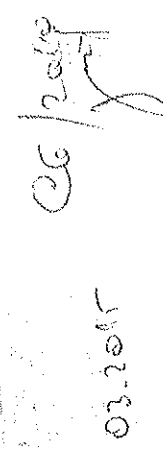
PLAN DE VASURATORI GROSIM

Deget: realizat electronic (CAD)
Modificările pot fi făcute doar
prin intermediul programului SP-Isometrics

TUV AUSTRIA ROMANIA

03.2017

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Desen realizat electronic CAD
Modificările pot fi făcute doar
prin intermediul programului SP-Isometrics

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PLAN DE MASTODON: PROSE

Desen realizat electronic (CAD)

உலக அமைதி

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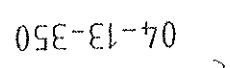
The following are the names of the persons who have been appointed to the various committees of the Board of Directors of the City of New York, for the year 1911:

AUSTRIA

ROMANIA **ROUMANIE**

$$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$$

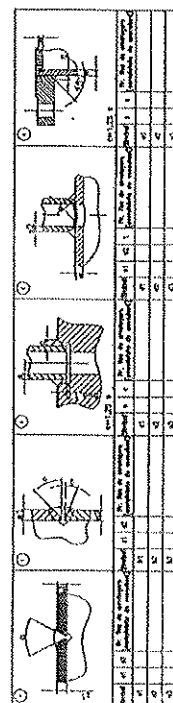
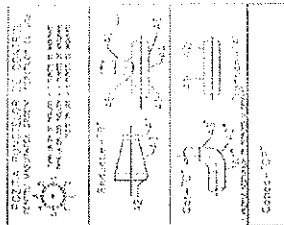
62-986



Daten realized electronic (CAD)
Modificabile per il facile door
prin intermediu programul SP-isometrics

ANALYZA CHEMICKA: AC1, AC2, AC3, AC4, ACS.

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Q: AN DE KASRA TOP GOSHI

Design realized electronic (CAD)
Modificarele pot fi facute doar
prin intermediul programului SP-Isometrics

[illegible]

94-223-57

RAPORT DE INSPECTIE

Nr : 119 Data : 05.02.2016

1. INSTALATIA : HB

2. ECHIPAMENT : Conducte expertizate

3. PARAMETRI :

Conducta / Sistem conducte	Parametrii conform proiect :
PB - 03 - 018 - 300	P = 54bar; T = 450 °C; Fluid = efluent; Material : A335P11

4. DEFECTIUNI CONSTATATE :

4.1. Conductei PB - 03 - 018 - 300, in urma verificarilor tehnice conform program expertiza, avand temperatura de peste 440 °C, ii trebuie montate butoni de fluaj conform cerintelor Prescriptiei tehnice aplicabile.

Anul punerii in functiune : 1975

5. CAUZE POSIBILE : uzura normala

6. REMEDIERE DEFECTIUNI :

6.1. Se vor monta butoni de fluaj in baza unui proiect de reparatie intocmit de firma reparatoare conform PT ISCIR C6-2010.

6.2. Proiectantul va stabili tipul, dimensiunea, numarul, si pozitia de montaj a acestora pe conducta.

7. TERMEN DE REALIZARE : RK 2017

8. RECOMANDARI SUPLIMENTARE : N/A

9. DOCUMENTE ANEXATE :

9.1. Schema izometrica

10. INTOCMIT : RSVTI

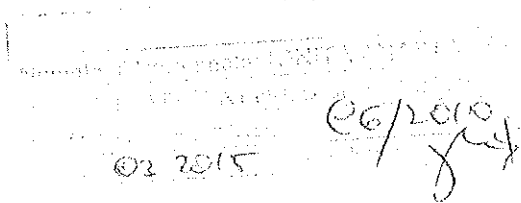
N.P. : CRISTIAN MIREL

SEMNATURA

11. AVIZAT : ING. SEF MECANIC

N.P. : MAKUSHEV DENYS

SEMNATURA

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Desen realizat: electronic (CAD)
Modificările pot fi făcute doar
prin intermediul programului Sp-Isometrics

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