## THE PPSA BUYERS' GUIDE

A breakdown of the products and services provided by the Members will be found in the following chart. The following is an explanation of some of the less well known terms and items which are listed:

- "Utility pigs" are used for a variety of purposes such as internal pipe wall cleaning, condensate removal, water fill for pressure testing, gauging, dewatering, drying, commissioning etc. There are many different types available for use in uni-directional, bi-directional and multidiameter pipelines. Utility pigs have been divided into the four different forms in which they are made:
  - a) "Mandrel pigs" are assembled from a number of component parts, and spare parts are available.
  - b) "Foam pigs" are moulded from polyurethane foam with various configurations of solid polyurethane strips and/or wire bristles, studs etc. permanently bonded to them.
  - c) "Solid cast pigs" are moulded in one piece usually from polyurethane.
  - d) "Spheres" are hollow balls, usually made from polyurethane and inflated to the optimum diameter with water/glycol.
- "Hyperbaric spheres" and "High DP pigs" are used mainly on subsea pipelines as a temporary plug while the two ends of the line are welded together.
- "Pig signals" indicate the passage of a pig. Intrusive types are mechanically actuated via a trigger or plunger which protrudes into the line. Non-intrusive and subsea signals may employ magnetic, ultrasonic or radioactive techniques.
- 4. "Pig locators" are used to locate a pig which may or may not be in motion.
- "Sphere flow tees" are specially designed to allow a sphere to pass an offtake without stalling. They may be called simply "Sphere tees" or "Flow tees".
- 6. "Sphere lifters" are usually in the form of tongs or suction devices.
- 7. "Pig suspension systems" are designed to keep a pig in the centre of a pipeline. They usually comprise spring-loaded skids or wheels and are used for inline inspection tools, or other relatively heavy pigs, and in multi-diameter pipelines.
- 8. There are two main methods of finding metal loss (corrosion): Magnetic flux leakage (MFL) and ultrasonics (UT). Another emerging technology involves the use of eddy currents.

Further, more detailed information on pigs and pigging will be found in the PPSA book entitled: "An Introduction to Pipeline Pigging".
Contact ppsa@ppsa-online.com for details.

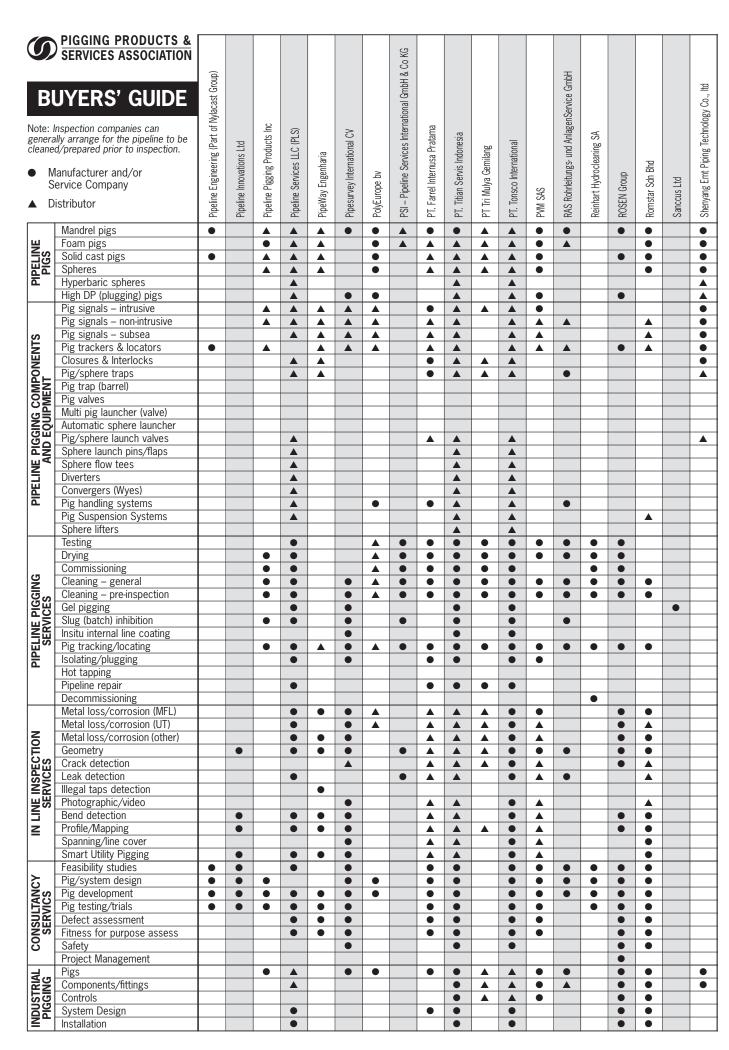
Blote: Ingenera	PIGGING PRODUCTS & SERVICES ASSOCIATION  JYERS' GUIDE  Inspection companies can ally arrange for the pipeline to be deformed prior to inspection.	Alchemy Oilfield Services Ltd	American Pipeline Solutions, Inc	Apache Pipeline Products			ARR Freeflow Private Limited	Ţ
	anufacturer and/or ervice Company	Oilfield	Pipelir	ipeline			flow Pr	R.G. Tachnical Itd
	istributor	chemy	nerican	ache P	Applus +	Argus	R Free	Tool
	Mandrel pigs	Alc	An	Ap	Ap	Ari	● AR	
ш	Foam pigs		<b>A</b>	•		<u> </u>		
PIPELINE	Solid cast pigs			•		<b>A</b>	•	•
ᇤᇎᆝ	Spheres			•		<b>A</b>	•	•
۵.	Hyperbaric spheres							_
	High DP (plugging) pigs Pig signals – intrusive		<b>A</b>	•		<b>A</b>	•	
	Pig signals – non-intrusive		_	A		_	A	
S	Pig signals – subsea			•		_	_	
PIPELINE PIGGING COMPONENTS AND EQUIPMENT	Pig trackers & locators			•			<u> </u>	<b>A</b>
	Closures & Interlocks						<b>A</b>	
필	Pig/sphere traps Pig trap (barrel)					•	•	_
	Pig valves							
S = 1	Multi pig launcher (valve)					•		
Ž∂	Automatic sphere launcher							
50	Pig/sphere launch valves						<u> </u>	<b>A</b>
A B	Sphere launch pins/flaps Sphere flow tees						<b>A</b>	
록 ∤	Diverters						_	
ᇤ	Convergers (Wyes)							
▄	Pig handling systems							
	Pig Suspension Systems							
	Sphere lifters Testing	•	•		•			
	Drying		•				•	
	Commissioning	•	•		•		•	
5	Cleaning – general	•	•		•		•	
IGGING ES	Cleaning – pre-inspection	•	•		•		<b>A</b>	•
즐길	Gel pigging Slug (batch) inhibition							
PIPELINE PI SERVICI	Insitu internal line coating							
	Pig tracking/locating		•	<b>A</b>	•		•	
ᇤ	Isolating/plugging	•						•
	Hot tapping							
	Pipeline repair							
	Decommissioning Metal loss/corrosion (MFL)		•		•			•
	Metal loss/corrosion (UT)				•			
8 I	Metal loss/corrosion (other)		•		•			
É.	Geometry		•		•		<b>A</b>	•
ESI	Crack detection Leak detection		•					
S≅	Illegal taps detection		•		•			•
IN LINE INSPECTION SERVICES	Photographic/video		•		•			
	Bend detection				•			•
Z	Profile/Mapping		•		•			
	Spanning/line cover Smart Utility Pigging		•			•		
	Feasibility studies		_			•		
⊱│	Pig/system design		•	•				
CONSULTANCY SERVICS	Pig development		•	•				•
	Pig testing/trials		•					•
SÄ	Defect assessment							•
وّ ر	Fitness for purpose assess Safety		•		•	<b>A</b>		•
٥	Project Management					<b>A</b>		4
ار	Pigs	•	<b>A</b>	•				•
<b>8</b> 8	Components/fittings							•
INDUSTRIAL	Controls							
	System Design				I			

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	PIGGING PRODUCTS & SERVICES ASSOCIATION  JYERS' GUIDE				in Tech. Co Ltd								ses Limited	H & Co KG		ding LLC	uan) Co., Ltd.	vices (HPPS)		
Note: I	nspection companies can Illy arrange for the pipeline to be d/prepared prior to inspection.	Baker Hughes / Quest Integrity			China Petroleum Pipeline Inspection Tech. Co Ltd	cts	Enduro Pipeline Services, Inc			n Bhd			Global Process and Pipeline Services Limited	GOTTSBERG Leak Detection GmbH & Co KG	Growth Avenue Sdn Bhd	Gulf Petrochemical Services & Trading LLC	Gyra Industrial Technology (Dongguan) Co., Ltd.	Halliburton Pipeline & Process Services (HPPS)		
	lanufacturer and/or	hes / (			oleum I	Drinkwater Products	eline S	Ltd		Eureka Efektif Sdn Bhd	ering	ıstries	cess al	RG Leal	enne S	chemic	trial Te	Pipelir		g AS
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		Bak	IGO	CEPS		_		Ene	EN		9		99	09	Gro				<u> </u>	
ш	Mandrel pigs Foam pigs				•	<b>A</b>	•			•		•				<b>A</b>	<b>A</b>	<b>A</b>		<b>A</b>
ELIN GS	Solid cast pigs				•	<b>A</b>	•			<b>A</b>		•				<b>A</b>	<b>A</b>	<b>A</b>		<b>A</b>
PIPELINE PIGS	Spheres Hyperbaric spheres						•			<b>A</b>		•		•		<b>A</b>	<b>A</b>	<b>A</b>		<b>A</b>
	High DP (plugging) pigs Pig signals – intrusive				•	<b>A</b>	•			<b>A</b>	•	<b>A</b>		•		<b>A</b>	<b>A</b>	<b>A</b>		<b>A</b>
	Pig signals – non-intrusive		•			Ā	•			A	•	A		•		Ā		Ā	•	<b>A</b>
IIS	Pig signals – subsea Pig trackers & locators		•		•	<b>A</b>	•			<b>A</b>	•	<b>A</b>		•		<b>A</b>		<b>A</b>	•	<b>A</b>
RE	Closures & Interlocks					Ā					•	Ā				Ā		Ā		<b>A</b>
PIPELINE PIGGING COMPONENTS AND EQUIPMENT	Pig/sphere traps Pig trap (barrel)			•	•	_										<b>A</b>		<b>A</b>		_
	Pig valves																			
SE SE	Multi pig launcher (valve) Automatic sphere launcher																			
	Pig/sphere launch valves				•	<b>A</b>					•	<b>A</b>		<b>A</b>		<b>A</b>		<b>A</b>		<b>A</b>
ANI	Sphere launch pins/flaps Sphere flow tees										•					<b>A</b>		<b>A</b>		<b>A</b>
	Diverters																	<b>A</b>		<b>A</b>
HE I	Convergers (Wyes) Pig handling systems	•			•					•		<b>A</b>		•		<b>A</b>		<b>A</b>		<b>A</b>
	Pig Suspension Systems													•		<u> </u>		<b>A</b>		<b>A</b>
	Sphere lifters Testing	•		•	•	<b>A</b>		•				<b>A</b>	•	•		•		•		•
	Drying	•		•	•			•					•			•		•		•
5	Commissioning Cleaning – general	•		•	•			•		•			•		•	•	•	•		•
PIPELINE PIGGING SERVICES	Cleaning – pre-inspection	•		•	•			•	•	•			•		•	•	•	•		•
VICE	Gel pigging Slug (batch) inhibition	•		•				•					•			•	•	•		•
SER	Insitu internal line coating				•											•	•	<b>A</b>		•
PE	Pig tracking/locating Isolating/plugging	•	•	•	•		•	•	•	•			•	•		•	•	•	•	•
	Hot tapping																			
	Pipeline repair Decommissioning	•		•	•					<b>A</b>						•		<b>A</b>		<b>A</b>
	Metal loss/corrosion (MFL)	•		<b>A</b>	•		•		•	<b>A</b>			•		•	<b>A</b>	•	<b>A</b>		<b>A</b>
Z	Metal loss/corrosion (UT) Metal loss/corrosion (other)	•		<b>A</b>						<b>A</b>			•		•	<b>A</b>		<b>A</b>		<b>A</b>
EJ.	Geometry	•		<b>A</b>	•		•		•	<b>A</b>			•		•		•	<b>A</b>		<b>A</b>
IN LINE INSPECTION SERVICES	Crack detection Leak detection	•		<b>A</b>	•					<b>A</b>			•	•	•	<b>A</b>	•	<b>A</b>		•
ER:	Illegal taps detection	•																		
N N	Photographic/video Bend detection	•		<b>A</b>	•		•		•	<b>A</b>			•	•	•		•	<b>A</b>		•
Z	Profile/Mapping	•		<b>A</b>	•		•		•	<b>A</b>			•	•	•		•	<b>A</b>		<b>A</b>
	Spanning/line cover Smart Utility Pigging	•								<b>A</b>			•	•	•	<b>A</b>	•	<b>A</b>		<b>A</b>
	Feasibility studies	•		•	•	<b>A</b>		•	•	•			•				•	•		•
CONSULTANCY SERVICS	Pig/system design Pig development	•			•	<b>A</b>	•		•	•				•	•		•	•		•
SE	Pig testing/trials	•	•		•	<b>A</b>	•	•	•	•			•	•	•		•	•		•
SEF	Defect assessment Fitness for purpose assess	•		•	•	<b>A</b>			• •					•	•		•	•		•
8	Safety			•	•				<b>A</b>							<b>A</b>	•	•		•
	Project Management Pigs	•			•	<b>A</b>	•					•		•		<b>A</b>		<b>A</b>		<b>A</b>
TRI ING	Components/fittings				•	<b>A</b>										•		•		<b>A</b>
INDUSTRIAL PIGGING	Controls System Design				•									•		•		•		•
Ξů	Installation				•													•		•



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genera	Inspection companies can ally arrange for the pipeline to be d/prepared prior to inspection.		ci	STM	Intero Integrity Services BV	talmatch Chemicals GB Ltd			U	Limpro Nacional, SA de CV	facture of Pi	. Z 0.0.			1 & Co. KG	4Pipe Hidropig Engenharia Industrial LTDA		Pigs Unlimited International LLC		
• M	lanufacturer and/or ervice Company	UK Ltd	Inline Services LLC.	INPIPE PRODUCTSTM	egrity Se	Chemica		Co b.v.	Knapp Polly Pig Inc	lacional,	ast Manul	NAFTOSERWIS Sp. z 0.0.	)al	lnc.	Services GmbH & Co.	dropig En	Petrosystem SRL	mited Inte	-5	Group
	istributor	IIMENCO UK Ltd	Inline Ser	INPIPE PI	Intero Int	Italmatch	Jee Ltd	Kleiss & Co b.v.	Кпарр Ро	Limpro N	Middle E	NAFTOSE	NDT Global	Novitech Inc.	3P Servic	4Pipe Hio	Petrosys	Pigs Unli	Pigtek Ltd	Pipecare Group
ш	Mandrel pigs Foam pigs		•	•				•	•	•	•					•	•	•	•	•
PIPELINE PIGS	Solid cast pigs Spheres		•	•				•	•	•	•					•	•	•	•	•
PIP	Hyperbaric spheres High DP (plugging) pigs		•	•				<b>A</b>	•		•						<b>A</b>		•	•
	Pig signals – intrusive		<b>A</b>	•				<b>A</b>	<b>A</b>	<b>A</b>	•						•	<b>A</b>		
TS	Pig signals – non-intrusive Pig signals – subsea Pig trackers & locators	•	• •	•				<b>A</b>	<b>A</b>	<u> </u>	<b>A</b>				•	<b>A</b>	•	<b>A</b>		
NEN.	Closures & Interlocks	•	<b>A</b>	•				<b>A</b>	<b>A</b>	_	<b>A</b>	•			•	<b>A</b>	•	• •		•
MPO	Pig/sphere traps Pig trap (barrel)		<b>A</b>	•							<b>A</b>					•	•	<b>A</b>		•
PIPELINE PIGGING COMPONENTS AND EQUIPMENT	Pig valves Multi pig launcher (valve)			•																
GING	Automatic sphere launcher Pig/sphere launch valves		<b>A</b>	•							<b>A</b>					_	<b>A</b>			
E PIG	Sphere launch pins/flaps Sphere flow tees		<u> </u>	•							<u> </u>						•			•
ELIN	Diverters		<b>A</b>	•																
PP	Convergers (Wyes) Pig handling systems		<b>A</b>	•							•					•	•		•	•
	Pig Suspension Systems Sphere lifters		<b>A</b>	•													<b>A</b>		•	
	Testing Drying				•	•				•						•	•	<b>A</b>		
5	Commissioning Cleaning – general		•	•	•	•				•						•	•	<b>A</b>	•	•
PIPELINE PIGGING SERVICES	Cleaning – pre-inspection Gel pigging		•	•	•	•				•					•	•	•	<b>A</b>	•	•
NE P	Slug (batch) inhibition Insitu internal line coating			_	•	•				•								<u> </u>	•	•
PELII	Pig tracking/locating		<b>A</b>	•	•					•		•			•	•	•		•	•
┗	Isolating/plugging Hot tapping			•		•		•												
	Pipeline repair Decommissioning			•	•	•													•	
	Metal loss/corrosion (MFL) Metal loss/corrosion (UT)				•							•	•	•	•		•	<b>A</b>		•
TION	Metal loss/corrosion (other) Geometry		•	•	•					•		•	•	•	•		•	<b>A</b>		•
PEC.	Crack detection Leak detection		•	•	•							•	•	•		<b>A</b>	•			•
INS	Illegal taps detection			•	•										•					
IN LINE INSPECTION SERVICES	Photographic/video Bend detection		•	•	•							•	•	•	•			<b>A</b>		•
=	Profile/Mapping Spanning/line cover		•	•	•					•		•	•	•	•		•	<b>A</b>		•
	Smart Utility Pigging Feasibility studies		•	•	•		•				•		•		•	•	•	<b>A</b>	•	•
NCY	Pig/system design Pig development		•	•	•		•			•	•	•	•		•	•	•	•	•	•
RVIC	Pig testing/trials Defect assessment		•	•	•		•		•	•	•	•	•		•	•	•	<b>A</b>	•	•
CONSULTANCY SERVICS	Fitness for purpose assess Safety			•	•		•		•		•	•	•				•	<u> </u>	•	•
	Project Management Pigs		•	•	•	•		•	•	•	•					•	•	<u> </u>	•	•
TRIA	Components/fittings			•				<b>A</b>		A	•						•			•
INDUSTRIAL PIGGING	Controls System Design		•	•	•			<b>A</b>									•		•	•
=	Installation			•	•										<u> </u>		•		ш	







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Service   Serv	ince Company ibutor  andrel pigs bam pigs blid cast pigs blid pigs g signals – non-intrusive g signals – subsea g trackers & locators blid locators blid cast pigs blid cast pigs g signals – non-intrusive g signals – subsea g trackers & locators blid locators blid cast pigs g systems blid locators blid loca		STATS Group	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A A A	Tracerco Ltd	<b>A</b>	Transpipe Integrit		0 0 0 0 0 0 0 0 0	• • • •	A A A A A A A A A A A A A A A A A A A
PIPELINE PIGGING PIPELINE PIP	andrel pigs pam pigs plid cast pigs pheres prebaric spheres gh DP (plugging) pigs g signals – intrusive g signals – subsea g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves phere launch pins/flaps phere flow tees verters provergers (Wyes) g handling systems g Suspension Systems phere lifters esting rying pmmissioning eaning – general		STATS	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A A A	Tracerc	<b>A</b>	Transpi		0 0 0 0 0 0 0 0 0	• • • •	A A A A A A A A A A A A A A A A A A A
Pipeline Pigging	pam pigs plid cast pigs pheres pheres prebaric spheres gh DP (plugging) pigs g signals – intrusive g signals – subsea g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch pins/flaps phere flow tees verters provergers (Wyes) g handling systems g Suspension Systems phere lifters esting rying pmmissioning eaning – general			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A A A		<b>A</b>		•	0 0 0 0 0 0 0	•	
High	oblid cast pigs otheres othere				A A				•	0 0 0 0 0 0 0	•	
Hiteline Pidging COmponents   Hite	otheres //perbaric spheres gh DP (plugging) pigs g signals – intrusive g signals – non-intrusive g signals – subsea g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves othere launch pins/flaps othere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems othere lifters esting rying ommissioning eaning – general	•		•	<b>A</b>				•		•	A A A A A A A A A A A A A A A A A A A
Hiteline Pidging COmponents   Hite	yperbaric spheres gh DP (plugging) pigs g signals – intrusive g signals – non-intrusive g signals – subsea g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves ohere launch pins/flaps ohere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems ohere lifters esting rying ommissioning eaning – general	•		•					•	•	•	A A A A A A A A A A A A A A A A A A A
Pipeline Pigging Components   Pipeline Pigging Components   Pipeline Pigging Components   Pipeline Pigging Components   Pipeline Pipelin	g signals – intrusive g signals – non-intrusive g signals – subsea g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves ohere launch pins/flaps ohere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems ohere lifters esting rying ommissioning eaning – general	•		•					•	•	-	A A A A A A A A A A A A A A A A A A A
Pipeline Pigging	g signals – non-intrusive g signals – subsea g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves othere launch pins/flaps othere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems othere lifters esting rying ommissioning eaning – general	•		•					•	•		A A A A A A A A A A A A A A A A A A A
Pipeline Pigging	g signals – subsea g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves ohere launch pins/flaps ohere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems ohere lifters esting rying ommissioning eaning – general	•		•					•	•		•
Pipeline Pigging	g trackers & locators osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves ohere launch pins/flaps ohere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems ohere lifters esting rying ommissioning eaning – general			•					•	•		•
PIPELINE PIGGING  DI  SERVICES  SERVICES  SERVICES  PIPELINE PIGGING  SERVICES  PIPELINE PIGGING  SERVICES  PIPELINE PIGGING  SERVICES  SERVICES  MM	osures & Interlocks g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves ohere launch pins/flaps ohere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems ohere lifters esting rying ommissioning eaning – general			•					•	•		•
PIPELINE PIGGING  DI  SERVICES  SERVICES  SERVICES  PIPELINE PIGGING  SERVICES  PIPELINE PIGGING  SERVICES  PIPELINE PIGGING  SERVICES  SERVICES  MM	g/sphere traps g trap (barrel) g valves ulti pig launcher (valve) utomatic sphere launcher g/sphere launch valves ohere launch pins/flaps ohere flow tees verters onvergers (Wyes) g handling systems g Suspension Systems ohere lifters esting rying ommissioning eaning – general									•		•
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Ho Pi <sub>l</sub> De Mo		_		•	•		•	_		•		•
Ho Pi <sub>l</sub> De Mo	eaning – pre-inspection	•		•	•		•	•				•
Ho Pi <sub>l</sub> De Mo	el pigging											
Ho Pi <sub>l</sub> De Mo	ug (batch) inhibition			•	•		•			•		•
Ho Pi <sub>l</sub> De Mo	situ internal line coating									•		•
Ho Pi <sub>l</sub> De Mo	g tracking/locating	•		•	•	•	•	•	•	•		•
Pi <sub>l</sub> De Me	olating/plugging		•	•			•			•		•
De Me	ot tapping peline repair		•	•	•				•	•		•
Me	ecommissioning			•								
Me	etal loss/corrosion (MFL)	•		•	<b>A</b>		•	•				<b>A</b>
Me Ge	etal loss/corrosion (UT)	•		•	<b>A</b>		•	•	•			
= Ge	etal loss/corrosion (other)	•		•		•	•	•				<b>A</b>
<b>→ (A   </b> ^	eometry	•		•	<b>A</b>	•	•	•	•	•		•
	rack detection eak detection	•		•	<b>A</b>	•	•	•	•			•
ZŹ	egal taps detection	•		•	_							
	notographic/video	•										•
Be	end detection	•		•			•	•	•	•		•
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	panning/line cover				_							<b>A</b>
	mart Utility Pigging easibility studies		•	•	•		•	•	•			•
	g/system design	•		•					•	•		•
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	g testing/trials	•		•			•					•
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<b>26</b> Co				•						•		
	ontrols ystem Design		_	•	_							