



## References for HDD Technology – January 2024

Project	Category	Country	Client	Diameter	Length	Pipe	Soil	Year
Shore approach da Praia do Além	shore approach crossing	Brazil	Petrobras/Consórcio Blue Marine	125mm	1180m	HDPE	Rock	2024
Gas To Energy - Guyana	River and road crossing	Guyana	Sicim/Exxon Mobilç	12"	533,40 766,90 422,10 266,00 297,00 398,70 297,40 670,20 556,40 803,90	steel	Soft soil	2023/24
Mineroduto Hydro Paragominas – Rio Acará-Mirim	river crossing	Brazil	Milplan / Hydro Paragominas	24"	540m	steel	Mix soil	2023
GNL de Santos	shore approach crossing	Brazil	Concremat / Compas / Cosan	20"	3020m	steel	Hard rock	2021/22/23
REVISSERMAR – Serra da Sapucaia	mountain crossing	Brazil	Petrobras / Copnsórcio GTR3	22"	750m	steel	rock	2020
Rio Caceribú	river crossing	Rio de Janeiro, Brazil	Petrobras / Copnsórcio GTR3	22"	510m	steel	soft soil	2019
Shore Approach Rota 3	shore approach crossing	Brazil	Petrobras / McDermott	24"	1035m	steel	rock	2019
Rio Cashiriari	river crossing	Peru	Plus Petrol	24", 06"	460m	steel	grava	2018
Emissário do COMPERJ - Shore Approach	shore approach crossing	Brazil	Azevedo & Travassos/Petrobras	26"	947m	steel	soft soil	2015
Emissário do COMPERJ - Serra de Inoã	mountain crossing	Brazil	Petrobras	32"	976m	steel	rock	2014
Retap Comgás	shore approach crossing	São Paulo, Brazil	Azevedo & Travassos/Comgas	20"	1760m	steel	soft soil	2012
Gasfor II	river crossing railroad crossing	Brazil	Egesa/Petrobras	20"	320m 450m	steel	soft soil rock	2012
Speicherleitung Jemgum ( <i>currently under construction</i> )	crossing of nature protection area	Germany	WINGAS GmbH & Co. KG / Gascade Gastransport GmbH	DN 900	3 x 900 m – 1700 m	steel	soft soil	2012
Crossing of Shatt Al-Arab ( <i>currently under construction</i> )	river crossing	Iraq	Ministry of Water Resources, Iraq	48"	7 x 1,210 m	HDPE	soft soil	2012
Rio Camisea Crossing (Kinteroni EPC 3) ( <i>currently under construction</i> )	river crossing	Peru	REPEXSA / Petrobras	16" + 6" casing	450 m	steel	soft soil	2012
Oleduto RNEST ( <i>currently under construction</i> )	road crossing	Brazil	RNEST / Consórcio CONDUTO-EGESA (COEG)	56" microtunneling	326 m	steel	soft soil	2012
Padma River Crossing ( <i>currently under construction</i> )	river crossing	Bangladesh	Gas Transmission Company Limited (GTCL)	30"	2,200 m	steel	lime stone	2011/ 2012
92. Umlegung (Leitung Nr. 2) in Mülheim – Duisburg („Entenfang")	pond crossing	Germany	Open Grid Europe GmbH	DN 700 3 x DN 90 (casing)	665 m	HDPE	lime stone	2012
Macedon Field Development	shore approach crossing	Australia	bhpbilliton / STREICHER-CLOUGH JV	20" pipe 30" casing	952 m	steel	rock	2011



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Sakhalin I Arkutun-Dagi Onshore Pipeline	bay crossing	Russia	Transneftegasproekt LLC/Flour Daniel Eurasia Inc.	20" - (wall thickness 36.3 mm)	1,400 m	steel	sand	2010/ 2011
CEPSA Refineria la Rabia, Sea Line Huelva Sea Line Replacement 3 <sup>rd</sup> Phase	shore approach	Spain	Mantenimiento y Montajes Industriales S. A. (MASA)	6", 36 "	1,400 m	steel	sand/clay/ gravel	2010
Kudepsta Shore Crossing/Sochi	shore crossing	Russia	StroyGazMontazh LLC	762 mm, 30" casing	1,515 m	steel	rock	2010
Turburea-Bulbuceni Pipeline Project	mountain crossing (precipice)	Romania	MAX STREICHER ROMANIA SRL	2 x 20" 1 x 10" 1 x 6"	500 m (each)	steel	clay/marne	2010
Qeshm Island	channel crossing	Iran	Iranian Offshore Oil Company (IOOC)	16"	3,060 m	steel	rock	2010
Devil Creek Project	engineering + shore approach	Australia	Apache Energy Limited	16"	1,850 m (2,150 m pipeline)	steel	rock	2009/ 2010
Dubai LNG Import Terminal	shore approach	UAE/Dubai	Archirodon Construction Co. S.A.	24"	1,400 m	steel	rock	2010
Amaradia river crossing	river crossing	Romania	MAX STREICHER ROMANIA SRL	1. DN 500 2. DN 500	1. 300 m 2. 480 m	steel	sand/clay	2010
Regen Düker/Zeitlarn	river crossing	Germany	Guggenberger GmbH	DN 500	140 m	HDPE	rock	2009
Drainage Jänschwalde	drainage	Germany	Vattenfall Europe Mining AG	DA 110	360 m	HDPE	coal/sand/ silt	2009
Qatif Oil Trunk Line	shore approach	KSA	Saudi Aramco/Global Industries	16"	2,100 m	API 5L X60 steel	rock	2009
Gasoducto del Sur	river crossing	Puerto Rico	SKANSKA Energy Services LLC.	20"	260 m	steel	soft soil/ gravel	2008
Mina Cable Crossing	cable crossing	UAE/Abu Dhabi	Al Barrak	2 x 24"	2 x 900 m	HDPE	rock	2009
Devil Creek Project	engineering (shore approach)	Australia	Clough Projects Australia Pty. Ltd.	16"	1,800 m	steel	rock	2008/ 2009
Water Supply to Yas Island - HDD Pipeline fabrication works	channel crossing	UAE/Abu Dhabi	SEDE/Transco Corporation (operated by JV NSCC/STREICHER/DrillTec)	48"	605 m	steel	rock	2008/ 2009
Water Supply to Saadiyat Island	channel crossing	UAE/Abu Dhabi	(operated by JV	2 x 48" 1 x 10"	1,200 m each	steel HDPE	rock	2008
North Bangkok Power Plant Gas Pipeline Project	5 crossings	Thailand	PTT Public Company Ltd.	24"	total 7,000 m	steel	soft soil	2008
Palm Jumeirah/Village Center	outfall	UAE/Dubai	Taisei Corporation/Nakheel (operated by JV NSCC/STREICHER/DrillTec)	1,000 mm	425 m	HDPE	rock	2008
Palm Jumeirah/Gateway Towers	channel crossing	UAE/Dubai	Taisei Corporation/Nakheel (operated by JV NSCC/STREICHER/DrillTec)	1 x 20" 2 x 1,000 mm	525 m each	steel HDPE	rock	2008
Adriatic LNG	shore approach	Italy	Mantovani/STREICHER JV	30", 6"	1,150 m	steel	soft soil	2008
Berri Causeway Flank 1 Water Injection	shore approach	KSA	Saudi Aramco/Global Industries	30"	1,500 m	API 5L X60 SI	soft rock	2008
Cartagena, Escombreras	shore approach	Spain	TEDAGUA (Catalana de Perforacions)	1,000 mm/710 mm	890 m	PE	rock (calcarenite)	2007
Llobregat River/Barcelona	river crossing	Spain	UTE Dessaladorea Barcelona	2 x 56", 30" bundle	3 x 482 m	PE	soft soil	2008
Canalisation Ambès Tauriac	river crossing	France	Total Infrastructure Gaz France (TIGF)	DN 200	1,400 m	steel	rock (marl)	2007
Gas/CO Pipeline	highway/railroad crossing	Germany	MAX STREICHER GmbH & Co. KG aA	4 x DN 250 1 x DN 400 3 x DN 500	total 3,000 m	steel	rock/gravel	2007
KUPE Gas Project	shore approach	New Zealand	Origin Energy/Technip Singapore	10 ¾", 20" +48" (microtunnel) DN300 gas flowline fabricaton	2 x 2,300 m + 200 m	steel	rock	2007
Draua River	river crossing	Croatia	TRG Horizontalbohrtechnik GmbH	DN 400	690 m	steel	soft soil	2006



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Sakhalin, Ilinsk River	river crossing	Russia	ICBS/TransTelekom	110 mm	460 m	drill pipe	sand	2006
Sakhalin II, Naiba River	river crossing	Russia	StarStroi/Sakhalin Energy	6", 24", 48"	1,150 m	steel	clay/gravel	2006
Waterleidingbedrijf Amsterdam/IJburg	river crossing	The Netherlands	DuraVermeer/STREICHER	24"	1.200 m, 610 m	steel + cement	sand	2006
CEPSA Refineria la Rabia, Sea Line Huelva	shore to shore	Spain	Mantenimiento y Montajes Industriales S. A. (MASA)	36", 6" cable conduit	1,400 m	steel	sand/clay/ gravel	2006
Sakhalin II, Chayvo Bay	bay crossing	Russia	StarStroi/Sakhalin Energy	20", 20"	1,540 m	steel	sand	2006
Sakhalin II, Tym River 1	river crossing	Russia	StarStroi/Sakhalin Energy	6", 20", 20"	440 m	steel	clay/gravel	2006
Trebel und Polder Eichholz	river crossing	Germany	Verbundnetz Gas AG	400 mm	900 m	steel	soft soil	2005
Sakhalin II, Nabil River	river crossing	Russia	StarStroi/Sakhalin Energy	6", 20", 20"	520 m	steel	clay/peat	2005
Sakhalin II, Vazi River	river crossing	Russia	StarStroi/Sakhalin Energy	6", 20", 20"	300 m	steel	clay/peat	2005
Sakhalin II, Firsovka River	river crossing	Russia	Starstroi/Sakhalin Energy	6", 24", 48"	780 m	steel	rock/gravel	2005
Sakhalin II, Tym River 2	river crossing	Russia	Starstroi/Sakhalin Energy	6", 24", 48"	550 m	steel	sand/gravel	2005
Sakhalin II, Val River	river crossing	Russia	Starstroi/Sakhalin Engery	6", 2 x 20"	720 m	steel	sand/clay	2005
Sakhalin I, Val River	river crossing	Russia	Lukoil/Exxon	24", 6"	690 m	steel	sand/clay	2005
Pipeline Connection Mittelplate Offshore Project	shore approach	Germany	RWE DEA AG/Wintershall Holding AG	6", 10"	in parts about 15,000 m	steel	sand/clay	2005
Sakhalin I, Chayvo Bay	bay crossing	Russia	Lukoil/NSNL/Exxon	24", 36"	1,300 m	steel	sand/clay	2005
Otway Gas Project	shore approach	Australia	Woodside Energy Ltd.	29", 10 ¾" + 48" (microtunnel)	2 x 810 m + 200 m	steel	peat/lime stone	2004
Del Duque Channel	river crossing	Columbia	Consortium Montecz-Conequipos	46 mm	330 m	steel	soft soil	2004
Spree Düker BEWAG	river crossing	Germany	BEWAG Berlin	3 x 810 mm	331 m	HD-PE	soft soil	2004
BTC Pipeline	river crossing	Azerbaijan	Flowtex Egypt/CCIC	1,067 mm	630 m	steel	soft soil	2004
Karoun River /AGIP	river crossing	Iran	NSCC/NIGC	812 mm	514 m	steel	soft soil	2003
TWER, Wolga River	river crossing	Russia	Twerobelgas	2 x 305 mm	2 x 450 m	steel	rock	2003
ENAGAS	river crossing	Spain	LMR/Enagas	812 mm	252 m	steel	soft soil	2003
Teterow Malchin	river crossing	Germany	EDIS	254 mm	1,640 m	steel	soft soil	2003
Löcknitz	river crossing	Germany	Ruhrgas AG	153 mm; 1,118 mm	613 m	steel	gravel/ soft soil	2003
Zehdenick	river crossing	Germany	LMR	305 mm	1,045 m	steel	soft soil	2003
Río Camisea	river crossing	Peru	Sade-Skanska JJC	20", 16", 2"	475 m each	steel	rock	2003
Sumatra	river crossing	Indonesia	Perusahaan Gas Negara (PGN)	812 mm	1 x 940 m 1 x 410 m	steel	soft soil	2003



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Rio Magdalena	river crossing	Colombia	Petrobras	2 x 250 mm 1 x 150 mm	512 m	steel	rock	2003
Lochau Tagebaurestloch	drainage	Germany	LMBV	100 mm	4 x 280 m	wire wrapped	soft soil	2003
Deponie-Algenrodt	drainage	Germany	City of Idar-Oberstein	355 mm	414 m	HD-PE	hard rock	2003
Dow-Pipeline	river crossing	Germany	RAB/ MAX STREICHER KG	254 mm	10 x between 173 m and 408 m	steel	rock	2003
Lindenhöhe/Ulm	drainage	Germany	Stadt Ulm	100 mm	5 x 400	Wire wrapped	rock	2003
AWA Wagrain	mountain crossing	Austria	Community of Wagrain	280 mm	483 m	HD-PE	hard rock	2003
Oran, Mountain El Oculito	mountain crossing	Argentina	Gasoducto Nor Andino/Techint	508 mm	1,412 m	steel	rock	2002
Rio Del Ason-Treto	river crossing	Spain	SODES	560 mm	600 m	steel	rock	2002
Donau-Kanal, Fürth	river crossing	Germany	Tucher-Bräu	508 mm	250 m	steel	soft soil	2002
Rio Magdalena	river crossing	Colombia	PROMIGAS	863 mm	1,700 m	steel	soft soil	2002
Victoria	shore approach	Australia	Esso/Allseas	356 mm	1,500 m	steel	soft soil	2002
Tasmania	shore approach	Australia	TNGP/Allseas	356 mm	860 m	steel	hard rock	2002
Victoria Landfall	shore approach	Australia	TNGP/Allseas	400 mm	1,085 m	steel	soft soil	2002
Petschora River	river crossing	Russia	Komi Oil Company	273 mm	1,750 m	steel	soft soil	2002
Suez Channel Crossing	river crossing	Egypt	Flowtex Egypt	710 mm	680 m	HD-PE	soft soil	2002
Suez Channel Crossing	river crossing	Egypt	Flowtex Egypt	710 mm	680 m	HD-PE	soft soil	2002
Meat Nama-Railway Crossing	railway crossing	Egypt	Flowtex Egypt	810 mm	335 m	steel	soft soil	2002
12 Crossings / Cruz del Sur	river crossing	Uruguay	GOSA	450 mm, 500 mm	200 m - 820 m	steel	soft soil	2001
Lindenhöhe / Ulm	drainage	Germany	Stadt Ulm	100 mm	440 m	Wire wrapped	soft soil/ rock	2001
Warta Crossing	river crossing	Poland	ENERGOPOL	400 mm	640 m	steel	soft soil	2001
Green Belt	crossing nature protective area	U.A.E	NSCC/ADNOC	250 mm	707 m	steel	soft soil	2001
Das Island	shore to shore	U.A.E	NSCC International Ltd.	200 mm	350 m	HD-PE	soft soil	2001
Pur River/Western Siberia	river crossing	Russia	NavTec/NOVA	1,016 mm	1,260 m	steel	soft soil	2001
Umm Al Nar/Abu Dhabi 2	shore to shore	U.A.E	NSCC/AI Nasr Irrigation/ WEA	305 mm	666 m	steel	soft soil	2001
Umm Al Nar /Abu Dhabi 1	shore to shore	U.A.E	NSCC/AI Nasr Irrigation/ WEA	1,070 mm	687 m	steel	soft soil	2001
8 Crossings in Egypt	river crossing	Egypt	FT Egypt / Petrojet	6 x 812 mm, 180 mm, 508 mm	300 m-712 m	steel	soft soil	2001
Mosel River/Müden	river crossing	Germany	Flowdrill / VBG Treis-Kaden	180 mm	280 m	HD-PE	hard rock	2001



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Mosel River/Pommern	river crossing	Germany	Flowdrill/VBG Treis-Kaden	180 mm	325 m	HD-PE	hard rock	2001
Pur River/Western Siberia	river crossing	Russia	NavTec/NOVA	250 mm	1,218 m	steel	soft soil	2001
Kap Shui Mun 1-4; Channel Hongkong	bay crossing	China	LucasDrillTec JV/Skanska /CLP Power Hong Kong	560 mm	4 x 850 m	steel	hard rock	2001
Ma Wan 1-2; Channel Hongkong	bay crossing	China	LucasDrillTec JV/Skanska /CLP Power Hong Kong	560 mm	2 x 1,250 m	steel	hard rock	2001
Watermains Project, HongKong	bay crossing	China	Lucas/Leightons	820 mm	1,369 m	steel	hard rock	2001
Deponie Ihlenberg	drainage	Germany	DMG	100 mm	190 m	wire wrapped	refill	2001
South Italy near Bari	river crossing	Italy	M,T, Microtunneling	500 mm	200 m, 270 m	HD-PE	soft soil	2001
Danube River (Alcatel)	river crossing	Germany	Arge LWL München-Stuttgart	150 mm	270 m	steel	soft soil	2000
Lech River (Alcatel)	river crossing	Germany	Arge LWL München-Stuttgart	225 mm	215 m	PE	soft soil	2000
Amper River (Alcatel)	river crossing	Germany	Arge LWL München-Stuttgart	225 mm	107 m	PE	soft soil	2000
Rhine River	river crossing	Germany	MAX STREICHER KG /Ruhrgas	180 mm, 350 mm	447 m, 457 m	steel	soft soil	2000
Amsterdam	river crossing	Netherlands	NBM	560 mm	224 m	PE	soft soil	2000
Breda	river crossing	The Netherlands	Meijssen	250 mm	438 m	HD-PE	soft soil	2000
Zederik	river crossing	The Netherlands	Meijssen	250 mm	400 m	HD-PE	soft soil	2000
Atbara River	river crossing	Sudan	NSCC International Ltd./ CPECC	711mm	650 m	steel	soft soil	2000
Steenenhoek Kanal	river crossing	The Netherlands	Meijssen	245 mm	667 m	steel	soft soil	2000
Knooppunt Gorinchem	river crossing	The Netherlands	Meijssen	245 mm	844 m	steel	soft soil	2000
Rio Uruguay	river crossing	Argentina	SADE	406 mm	1,580 m	steel	rock	2000
Vianen B	river crossing	The Netherlands	Meijssen	245 mm	830 m	steel	soft soil	2000
Vianen A	river crossing	The Netherlands	Meijssen	245 mm	880 m	steel	soft soil	2000
Porto	river crossing	Portugal	CMC	293 mm	225 m	steel	rock	2000
Gronichem	river crossing	The Netherlands	Meijssen	245 mm	1,250 m	steel	Soft soil	2000
Barkhanchak River	river crossing	Russia	FAB	1,010 mm	730 m	steel	soft soil	2000
Lek River Crossing, Everdingen	river crossing	The Netherlands	Meijssen	245 mm	1,000 m	steel	soft soil	2000
Nürnberg-East	river crossing	Germany	MAX STREICHER KG	355 mm	255 m	steel	rock	2000
Samaliah Island Crossing – Unit III to UAN Water Supply Pipeline	shore to shore	Abu Dhabi, UAE	NSCC International Ltd.	24"	1,374 m	steel	rock	2000
Neckar River crossing	river crossing	Germany	MAX STREICHER KG	355 mm	240 m	HD-PE	rock	2000



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Amper River Crossing	river crossing	Germany	MAX STREICHER KG	4 x 315 mm	145 m, 75 m, 120 m, 90 m	HD-PE	soft	2000
Aigurka River Crossing	river crossing	Russia	FAB	1,010 mm	800 m	steel	soft soil	2000
Ingolstadt	river crossing	Germany	MAX STREICHER KG	280 mm	190 m	HD-PE	rock	2000
Landfill Rainham	drainage	United Kingdom	University of Southampton/Cleanaway Ltd.	100 mm	3 x 250 m	Well Screen	soft soil	2000
Volga River Crossing	river crossing	Russia	FAB	1,010 mm	1,400 m	steel	soft soil	2000
Rio Uruguay	river crossing	Argentina	Techint	600 mm	1,300 m	steel	hard rock	2000
Highway Crossing, Hof	highway crossing	Germany	MAX STREICHER KG	355 mm	120 m	HD-PE	rock	2000
Musnoah Island – Water Supply Pipeline	shore to shore	Abu Dhabi, UAE	NSCC International Ltd.	24"	1,200 m	steel	rock	2000
Highway Crossing, Hof	highway crossing	Germany	MAX STREICHER KG	355 mm	120 m	HD-PE	rock	2000
Saale River Crossing	river crossing	Germany	MAX STREICHER KG	160 mm	150 m	HD-PE	rock	2000
Carcarana River Crossing	river crossing	Argentina	Techint	600 mm	680 m	steel	soft soil	1999
Inn River Crossing/Mühldorf	river crossing	Germany	STRABAG	400 mm	240 m	HD-PE	rock	1999
Moravka River Crossing	river crossing	Czechoslovakia	MAX STREICHER KG	508 mm, 127 mm	570 m	steel	hard rock	1999
Lek River Crossing	river crossing	Netherlands	Meijsen	250 mm	450 m	steel	soft soil	1999
Bremen	harbour crossing	Germany	Nacap/EWE	406 mm	555 m	steel	soft soil	1999
Bremen	harbour crossing	Germany	Nacap/EWE	406 mm	450 m	steel	soft soil	1999
A O Crossing	river crossing	Belgium	Meijsen	160 mm	266 m	HD-PE	soft soil, rock	1999
Utrecht	river crossing	Netherlands	Meijsen	500 mm	350 m	HD-PE	soft soil	1999
Waal River Crossing	river crossing	Netherlands	Meijsen	250 mm	780 m	steel	soft soil	1999
Suez Canal Crossing (III)	river crossing	Egypt	Flowtex Egypt/Petrojet/Agip	2 x 304,8 mm	1,100 m	steel	soft soil	1999
Suez Canal Crossing (II)	river crossing	Egypt	Flowtex Egypt/Petrojet/Agip	762 mm	1,100 m	steel	soft soil	1999
Suez Canal Crossing (I)	river crossing	Egypt	Flowtex Egypt/Petrojet/Agip	914,4 mm	1,100 m	steel	soft soil	1999
Soil Rehabilitation CKW, Kassel	drainage	Germany	Bilfinger & Berger	125 mm (3x)	128 m - 152 m	HDPE	soft soil	1999
Rohr, Garzweiler	drainage	Germany	Rheinbraun AG	100 mm	3 x 380 m	HDPE	soft soil	1999
AROBIS 3, Bitterfeld	crossing	Germany	FTT, FZK	210 mm	200 m	HDPE	soft soil	1999
AROBIS 2, Karlsruhe	crossing	Germany	FTT, FZK	210 mm	200 m	HDPE	soft soil	1999
Porto Harbour Crossing	harbour crossing	Portugal	CME	203 mm	225 m	steel	hard rock	1999



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Lübeck	highway crossing/ crossing nature protective area	Germany	Flowtex Hamburg	450 mm	2 x 250 m	KMR / HDPE	soft soil	1999
Noordervaart - Crossing	river crossing	Netherlands	Meijssen	5 x 160 mm	150 m	HDPE	soft soil	1999
Maas River Crossing	river crossing	Netherlands	Meijssen	250 mm	450 m	HDPE	soft soil	1999
Tanta River Crossing	river crossing	Egypt	Flowtex - Egypt/Egypt-Gas	510 mm	240 m	steel	soft soil	1999
Suez Canal Crossing, Port Said	river crossing	Egypt	Flowtex Egypt	900 mm	3 x 660 m	HDPE	soft soil	1999
Lulu Island -Water Supply and Storage Facility	shore to shore	Abu Dhabi, UAE	NSCC International Ltd.	2 x 32"	900 m each	steel	soft soil	1999