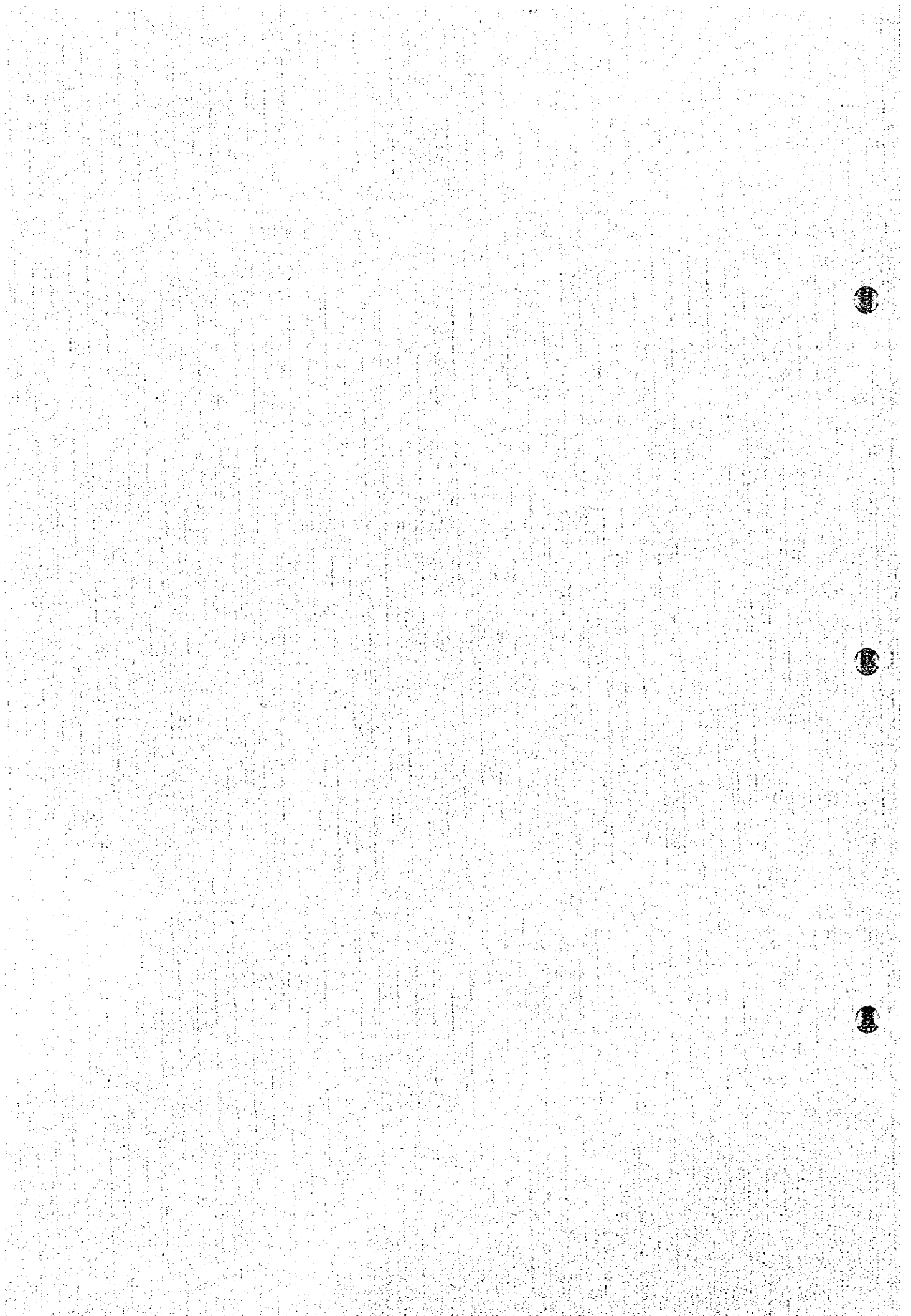


### **3. HYDRAULIC NETWORK ANALYSES**

- I. ZQRQA AREA (2015)
- II. RUSAIFA & AWAJAN ARAE (2015)
- III. HASHMEY & SUKNA AREA (2015)



# I. ZARQA AREA RESULT (2015)

## ZARQA AREA RESULT (2015)

Node data

	FROM	TO	DIAMETER	LENGTH	ROUGHNESS
	NODE	NODE	(mm)	(m)	
PIPE	B0501	B0503	100	650	0.95
PIPE	B0501	B0505PD1	100	100	0.95
PIPE	B0501	B4827	100	470	0.95
PIPE	B0503	B4886	100	400	0.95
PIPE	B0504PS1	RES716	100	10	0.95
PIPE	B4701	B4702	100	40	0.95
PIPE	B4701	B4707	100	200	0.95
PIPE	B4702	B4703	100	150	0.95
PIPE	B4702	B4708	100	800	0.95
PIPE	B4703	B4704	100	500	0.95
PIPE	B4703	B4709	100	580	0.95
PIPE	B4704	B4710	100	400	0.95
PIPE	B4705	B4706	100	300	0.95
PIPE	B4705	B4707	100	350	0.95
PIPE	B4706	B4707	100	320	0.95
PIPE	B4708	B4709	100	520	0.95
PIPE	B4708	B4802	100	310	0.95
PIPE	B4709	B4710	100	170	0.95
PIPE	B4710	B4801	100	360	0.95
PIPE	B4711	B4712	100	250	0.95
PIPE	B4711	B4720	100	250	0.95
PIPE	B4712	B4713	100	350	0.95
PIPE	B4712	B4821	100	450	0.95
PIPE	B4713	B4714	100	150	0.95
PIPE	B4713	B4823	100	220	0.95
PIPE	B4714	B4715	100	100	0.95
PIPE	B4714	B4826	100	600	0.95
PIPE	B4715	B4716	100	200	0.95
PIPE	B4715	B4727	100	210	0.95
PIPE	B4716	B4717	100	250	0.95
PIPE	B4716	B4726	100	170	0.95
PIPE	B4717	B4718	100	200	0.95
PIPE	B4717	B4723	100	300	0.95
PIPE	B4718	B4719	100	100	0.95
PIPE	B4718	B4719	100	790	0.95

PIPE	B4719	B4721	100	100	0.95
PIPE	B4720	B4721	100	220	0.95
PIPE	B4721	B4722	100	350	0.95
PIPE	B4722	B4723	100	150	0.95
PIPE	B4723	B4724	100	120	0.95
PIPE	B4724	B4725	100	190	0.95
PIPE	B4725	B4726	100	580	0.95
PIPE	B4725	B4729	100	180	0.95
PIPE	B4726	B4731	100	320	0.95
PIPE	B4727	B4733	100	200	0.95
PIPE	B4727	B4825	100	90	0.95
PIPE	B4728	B4729	100	340	0.95
PIPE	B4729	B4730	100	220	0.95
PIPE	B4730	B4731	100	250	0.95
PIPE	B4731	B4732	100	80	0.95
PIPE	B4732	B4733	100	220	0.95
PIPE	B4732	B4736	100	300	0.95
PIPE	B4733	B4734	200	260	0.95
PIPE	B4734	B4735	100	250	0.95
PIPE	B4735	B4736	100	340	0.95
PIPE	B4801	B4802	100	350	0.95
PIPE	B4801	B4805	100	490	0.95
PIPE	B4802	B4803	100	280	0.95
PIPE	B4803	B4804	100	180	0.95
PIPE	B4803	B4808	100	240	0.95
PIPE	B4803	B4815	100	660	0.95
PIPE	B4805	B4806	100	300	0.95
PIPE	B4805	B4807	100	250	0.95
PIPE	B4807	B4808	100	130	0.95
PIPE	B4808	B4809	100	220	0.95
PIPE	B4809	B4810	100	250	0.95
PIPE	B4809	B4811	100	220	0.95
PIPE	B4810	B4811	100	350	0.95
PIPE	B4812	B4813	100	350	0.95
PIPE	B4812	B4883	100	500	0.95
PIPE	B4813	B4814	100	300	0.95
PIPE	B4814	B4880	100	220	0.95
PIPE	B4815	B4816	100	120	0.95
PIPE	B4816	B4817	100	340	0.95
PIPE	B4816	B4821	100	130	0.95
PIPE	B4817	B4818	100	150	0.95
PIPE	B4817	B4820	100	620	0.95
PIPE	B4818	B4820	100	280	0.95
PIPE	B4822	B4823	100	180	0.95

PIPE	B4823	B4824	100	370	0.95
PIPE	B4824	B4825	100	250	0.95
PIPE	B4824	B4826	100	180	0.95
PIPE	B4827	B4888	100	150	0.95
PIPE	B4828	B4829	100	200	0.95
PIPE	B4828	B4842	100	220	0.95
PIPE	B4828	B4888	100	150	0.95
PIPE	B4829	B4830	100	450	0.95
PIPE	B4829	B4885	100	600	0.95
PIPE	B4830	B4832	100	200	0.95
PIPE	B4830	B4841	100	160	0.95
PIPE	B4831	B4834	100	300	0.95
PIPE	B4832	B4835	100	140	0.95
PIPE	B4833	B4834	100	400	0.95
PIPE	B4834	B4839	100	100	0.95
PIPE	B4835	B4885	100	110	0.95
PIPE	B4836	B4837	100	130	0.95
PIPE	B4836	B4843	100	200	0.95
PIPE	B4837	B4851	100	570	0.95
PIPE	B4838	B4852	100	650	0.95
PIPE	B4839	B4840	100	280	0.95
PIPE	B4839	B4856	100	480	0.95
PIPE	B4840	B4853	100	620	0.95
PIPE	B4841	B4842	100	200	0.95
PIPE	B4843	B4844	100	380	0.95
PIPE	B4843	B4845	100	210	0.95
PIPE	B4844	B4846	100	620	0.95
PIPE	B4844	B4887	100	80	0.95
PIPE	B4845	B4846	100	680	0.95
PIPE	B4845	B4847	100	270	0.95
PIPE	B4846	B4865	100	220	0.95
PIPE	B4847	B4848	100	240	0.95
PIPE	B4847	B4866	100	330	0.95
PIPE	B4848	B4849	100	150	0.95
PIPE	B4848	B4868	100	350	0.95
PIPE	B4849	B4850	100	320	0.95
PIPE	B4849	B4851	100	160	0.95
PIPE	B4851	B4852	100	220	0.95
PIPE	B4852	B4853	100	310	0.95
PIPE	B4853	B4854	100	220	0.95
PIPE	B4854	B4855	100	200	0.95
PIPE	B4854	B4856	100	140	0.95
PIPE	B4856	B4857	100	100	0.95
PIPE	B4857	B4858	100	390	0.95

PIPE	B4857	B4860	100	470	0.95
PIPE	B4858	B4859	100	480	0.95
PIPE	B4858	B4860	100	330	0.95
PIPE	B4859	B4864	100	180	0.95
PIPE	B4859	B4889	100	400	0.95
PIPE	B4860	B4861	100	250	0.95
PIPE	B4860	B4863	100	150	0.95
PIPE	B4861	B4862	100	220	0.95
PIPE	B4862	B4863	100	490	0.95
PIPE	B4863	B4864	100	150	0.95
PIPE	B4864	B4889	100	300	0.95
PIPE	B4865	B4866	100	280	0.95
PIPE	B4865	B4870	100	630	0.95
PIPE	B4866	B4867	100	300	0.95
PIPE	B4867	B4868	100	270	0.95
PIPE	B4867	B4871	100	200	0.95
PIPE	B4868	B4869	100	500	0.95
PIPE	B4869	B4873	100	350	0.95
PIPE	B4870	B4871	100	280	0.95
PIPE	B4870	B4877	100	200	0.95
PIPE	B4871	B4872	100	120	0.95
PIPE	B4872	B4873	100	240	0.95
PIPE	B4872	B4876	100	190	0.95
PIPE	B4873	B4874	100	200	0.95
PIPE	B4874	B4875	100	220	0.95
PIPE	B4874	B4876	100	230	0.95
PIPE	B4876	B4877	100	380	0.95
PIPE	B4877	B4878	100	380	0.95
PIPE	B4878	B4879	100	400	0.95
PIPE	B4878	B4881	100	330	0.95
PIPE	B4879	B4880	100	160	0.95
PIPE	B4880	B4881	100	540	0.95
PIPE	B4881	B4882	100	320	0.95
PIPE	B4882	B4883	100	250	0.95
PIPE	B4882	B4890	100	280	0.95
PIPE	B4884	B4890	100	200	0.95
PIPE	B4885	B4886	100	140	0.95
PIPE	B4887	B6501	100	900	0.95
PIPE	B4887	RES716	200	770	0.95
PIPE	B4890	B4891	100	400	0.95
PIPE	B4891	B4892	100	270	0.95
PIPE	B4901	B4902	100	640	0.95
PIPE	B4901	B4909	100	220	0.95
PIPE	B4901	B4916	100	730	0.95

PIPE	B4901	B6509	100	240	0.95
PIPE	B4902	B4903	100	630	0.95
PIPE	B4903	B4904	100	380	0.95
PIPE	B4903	B4908	100	280	0.95
PIPE	B4903	B4909	100	150	0.95
PIPE	B4904	B4905	100	1230	0.95
PIPE	B4905	B4906	100	430	0.95
PIPE	B4906	B4907	100	170	0.95
PIPE	B4906	B4912	100	220	0.95
PIPE	B4907	B4908	100	460	0.95
PIPE	B4907	B4910	100	320	0.95
PIPE	B4907	B4915	100	310	0.95
PIPE	B4909	B4910	100	520	0.95
PIPE	B4911	B4912	100	320	0.95
PIPE	B4912	B4913	100	450	0.95
PIPE	B4913	B4914	100	350	0.95
PIPE	B4914	B4915	100	390	0.95
PIPE	B4915	B4916	100	510	0.95
PIPE	B6501	B6502	100	390	0.95
PIPE	B6501	B6505	100	450	0.95
PIPE	B6502	B6503	100	180	0.95
PIPE	B6502	B6509	100	820	0.95
PIPE	B6503	B6504	100	430	0.95
PIPE	B6505	B6506	100	620	0.95
PIPE	B6505	B6509	100	200	0.95
PIPE	B6506	B6507	100	680	0.95
PIPE	B6506	B6508	100	120	0.95
PIPE	B6507	B6508	100	740	0.95
PIPE	B6508	B6509	100	630	0.95
PIPE	N0902	N1302	400	350	1
PIPE	N1201	N1501	400	320	1
PIPE	N1301	N1302	500	10	0.95
PIPE	N1302	N1501	400	350	1
PIPE	N1401	N1402	200	390	0.95
PIPE	N1502	RESBATR	600	1650	0.95
PIPE	R7161N	RBATRPMP	400	1600	0.95
PIPE	ZPS4	ZPS5	400	5	1
PIPE	ZPS4	ZPS7	150	30	1
PIPE	ZPS6	ZPS7	400	20	1
PIPE	0101	0102	80	280	1
PIPE	0102	4704	200	60	1
PIPE	0102	4708	200	360	1
PIPE	0103	0104	80	300	1
PIPE	0103	0105	400	400	1

PIPE	0103	0602	400	330	1
PIPE	0105	ZPS5	400	30	1
PIPE	0106	N1201	400	2110	1
PIPE	0106	ZPS5	400	30	1
PIPE	0107	0108	400	40	1
PIPE	0107	0713	400	1120	1
PIPE	0108	ZPS7	400	15	1
PIPE	0108	0304	400	1840	1
PIPE	0201	0202	80	100	1
PIPE	0201	0204	80	375	1
PIPE	0202	0205	80	655	1
PIPE	0202	0305	80	165	1
PIPE	0203	0204	80	75	1
PIPE	0203	0213	200	220	1
PIPE	0203	0214	100	60	1
PIPE	0204	0206	80	345	1
PIPE	0205	0206	80	100	1
PIPE	0206	0208	80	260	1
PIPE	0207	0209	200	20	1
PIPE	0207	0313	200	100	1
PIPE	0207	0315	80	80	1
PIPE	0208	0209	80	200	1
PIPE	0209	0212	200	75	1
PIPE	0210	0211	200	80	1
PIPE	0210	0214	100	630	1
PIPE	0210	4704	200	40	1
PIPE	0211	0212	200	230	1
PIPE	0213	0404	200	380	1
PIPE	0301	0302	150	10	1
PIPE	0301	0410	150	30	1
PIPE	0301	0413	150	10	1
PIPE	0302	0409	400	470	1
PIPE	0302	0902	400	30	1
PIPE	0303	0305	200	60	1
PIPE	0303	0306	80	220	1
PIPE	0303	0412	200	60	1
PIPE	0304	0410	150	60	1
PIPE	0304	0411	400	440	1
PIPE	0305	0310	200	320	1
PIPE	0306	0308	80	200	1
PIPE	0307	0308	80	150	1
PIPE	0307	0309	80	150	1
PIPE	0308	0311	80	380	1
PIPE	0309	0310	80	70	1



PIPE	0310	0312	200	260	1
PIPE	0311	0312	200	110	1
PIPE	0312	0313	200	140	1
PIPE	0313	0314	80	95	1
PIPE	0314	0315	80	100	1
PIPE	0315	0316	80	80	1
PIPE	0317	0606	200	540	1
PIPE	0317	0904	200	970	1
PIPE	0401	0402	200	70	1
PIPE	0401	0405	100	330	1
PIPE	0401	1005	200	200	1
PIPE	0402	0403	200	70	1
PIPE	0402	1005A	400	270	0.95
PIPE	0402	4801	400	690	0.95
PIPE	0402	4803	80	130	1
PIPE	0403	4806	200	85	1
PIPE	0404	4806	200	210	1
PIPE	0405	0406	100	190	1
PIPE	0406	0410	150	220	1
PIPE	0406	1005	150	410	1
PIPE	0407	RESBATR	400	10	1
PIPE	0407	0408	400	170	1
PIPE	0408	0412	400	160	1
PIPE	0409	RESBATR	400	100	1
PIPE	0409	0411	200	10	1
PIPE	0411	RESBATR	200	150	1
PIPE	0412	0413	400	240	1
PIPE	0413	1016	400	30	1
PIPE	0501	0502	100	300	1
PIPE	0501	6502	100	850	1
PIPE	0502	4602	100	670	1
PIPE	0503	0504	100	70	1
PIPE	0503	0505	100	210	1
PIPE	0504	0506	100	80	1
PIPE	0505	0511	100	450	1
PIPE	0506	0507	150	50	1
PIPE	0507	0508	100	300	1
PIPE	0508	0509	150	50	1
PIPE	0508	0510	150	200	1
PIPE	0509	0512	150	100	1
PIPE	0510	0511	150	120	1
PIPE	0511	0513	150	195	1
PIPE	0512	0514	150	160	1
PIPE	0513	0515	80	100	1

PIPE	0513	4604	150	60	1
PIPE	0514	0518	150	180	1
PIPE	0515	0517	80	200	1
PIPE	0516	0522	80	120	1
PIPE	0517	0520	80	110	1
PIPE	0518	0519	150	100	1
PIPE	0518	0520	80	310	1
PIPE	0519	0521	150	100	1
PIPE	0521	0524	80	270	1
PIPE	0521	0525	150	130	1
PIPE	0522	0523	80	170	1
PIPE	0523	0524	80	150	1
PIPE	0525	0527	150	350	1
PIPE	0526	N0501	200	10	0.95
PIPE	0526	0527	400	30	1
PIPE	0527	1001	200	100	0.95
PIPE	0527	1005A	300	560	1
PIPE	0602	0605	150	200	1
PIPE	0602	1204	400	1310	1
PIPE	0603	0604	150	20	1
PIPE	0603	0703	150	300	1
PIPE	0603	0706	80	570	1
PIPE	0604	0605	200	40	0.95
PIPE	0606	9036	200	350	1
PIPE	0701	0702	150	250	1
PIPE	0701	1109	150	90	1
PIPE	0702	0703	150	170	1
PIPE	0704	0706	100	30	1
PIPE	0704	1109	100	90	1
PIPE	0705	0708	150	100	1
PIPE	0705	1108	150	180	1
PIPE	0705	1109	150	95	1
PIPE	0706	0709	100	135	1
PIPE	0707	0708	150	90	1
PIPE	0708	0710	150	140	1
PIPE	0709	0711	100	155	1
PIPE	0709	0712	80	600	1
PIPE	0710	0711	100	95	1
PIPE	0713	1218	400	600	1
PIPE	0801	0802	80	170	1
PIPE	0801	0905	80	120	1
PIPE	0802	N0901	200	400	0.95
PIPE	0802	0804	80	190	1
PIPE	0802	0804	200	190	0.95

PIPE	0802	1013	80	400	1
PIPE	0802	1306	200	250	0.95
PIPE	0803	0805	80	410	1
PIPE	0803	0906	80	290	1
PIPE	0804	0805	80	150	1
PIPE	0804	1102	80	230	1
PIPE	0901	0902	300	10	1
PIPE	0901	1015	300	30	1
PIPE	0901	1016	300	10	1
PIPE	0902	N0902	400	320	1
PIPE	0903	0904	80	90	1
PIPE	0904	1015	200	100	1
PIPE	0905	0906	80	110	1
PIPE	1001	1002	80	410	1
PIPE	1001	4609	80	200	1
PIPE	1002	4610	80	120	1
PIPE	1002	4612	80	110	1
PIPE	1003	N0501	150	485	1
PIPE	1003	1005	150	150	1
PIPE	1004	1301	200	350	1
PIPE	1004	1410	80	170	1
PIPE	1004	4612	200	500	1
PIPE	1005A	1015	300	630	1
PIPE	1006	1007	80	70	1
PIPE	1007	1009	80	110	1
PIPE	1007	1010	80	115	1
PIPE	1008	1009	80	280	1
PIPE	1008	1012	80	190	1
PIPE	1010	1011	80	65	1
PIPE	1010	1013	80	260	1
PIPE	1011	1014	80	210	1
PIPE	1011	1302	80	195	1
PIPE	1012	1013	80	200	1
PIPE	1013	1014	80	50	1
PIPE	1016	N0901	400	370	1
PIPE	1101	1103	80	120	1
PIPE	1101	1306	80	215	1
PIPE	1102	1103	80	120	1
PIPE	1104	1105	150	100	1
PIPE	1104	1204	200	105	1
PIPE	1104	1207	200	50	1
PIPE	1106	1107	100	100	1
PIPE	1107	1108	150	50	1
PIPE	1107	1211	150	50	1

PIPE	1201	1203	300	400	1
PIPE	1201	1203	500	400	0.95
PIPE	1201	1205	200	220	1
PIPE	1201	1502	200	300	1
PIPE	1201	1709	400	20	1
PIPE	1202	1206	150	225	1
PIPE	1202	1507	150	130	1
PIPE	1203	N1201	500	10	0.95
PIPE	1203	1204	400	80	1
PIPE	1203	1208	100	250	1
PIPE	1203	1505	400	250	1
PIPE	1205	1206	150	180	1
PIPE	1205	1212	200	215	1
PIPE	1205	1603	150	390	1
PIPE	1206	1208	150	100	1
PIPE	1206	1213	150	205	1
PIPE	1207	1209	200	60	1
PIPE	1208	1209	150	90	1
PIPE	1209	1210	150	190	1
PIPE	1209	1215	200	210	1
PIPE	1210	1211	150	80	1
PIPE	1211	1214	150	30	1
PIPE	1212	N1601	200	230	1
PIPE	1212	1213	200	130	1
PIPE	1213	1215	200	155	1
PIPE	1214	1215	150	275	1
PIPE	1215	1216	100	65	1
PIPE	1216	1217	150	300	1
PIPE	1218	1605	400	800	1
PIPE	1301	1302	200	90	1
PIPE	1301	1411	200	130	1
PIPE	1302	1304	200	180	1
PIPE	1303	1414	300	130	1
PIPE	1303	1503	300	155	1
PIPE	1304	1305	200	55	1
PIPE	1305	N0901	400	400	1
PIPE	1401	1402	80	120	1
PIPE	1401	4612	80	150	1
PIPE	1402	1403	80	145	1
PIPE	1402	1406	80	230	1
PIPE	1403	1404	80	80	1
PIPE	1404	1405	80	100	1
PIPE	1405	2005	80	170	1
PIPE	1406	1408	80	210	1

PIPE	1407	1408	80	270	1
PIPE	1407	1410	80	50	1
PIPE	1408	1409	80	30	1
PIPE	1409	N1402	200	140	0.95
PIPE	1409	1412	80	310	1
PIPE	1409	2005	80	110	1
PIPE	1411	N1401	200	100	1
PIPE	1413	1702	300	75	1
PIPE	1413	2007	300	450	1
PIPE	1414	1705	300	150	1
PIPE	1501	1502	200	135	1
PIPE	1503	1504	300	35	1
PIPE	1504	N1301	400	380	1
PIPE	1504	N1501	500	10	0.95
PIPE	1504	1505	400	80	1
PIPE	1505	N1502	600	20	0.95
PIPE	1505	1506	150	95	1
PIPE	1506	1507	150	40	1
PIPE	1601	1603	200	210	1
PIPE	1601	1707	300	235	1
PIPE	1601	1708	400	110	1
PIPE	1601	2101	400	530	1
PIPE	1602	1709	200	70	1
PIPE	1603	1604	200	80	1
PIPE	1604	1606	200	140	1
PIPE	1605	N2101	400	490	1
PIPE	1606	N1601	200	80	1
PIPE	1606	1708	200	340	1
PIPE	1607	N1601	200	10	0.95
PIPE	1701	1903	100	75	1
PIPE	1701	2008	100	100	1
PIPE	1701BV2	2311	100	270	1
PIPE	1701PMP	2007	250	310	0.95
PIPE	1702	1704	300	65	1
PIPE	1703	1706	200	135	1
PIPE	1703	1904	200	40	1
PIPE	1703BV	1707	300	265	1
PIPE	1704	1705	300	60	1
PIPE	1707	1907	200	80	1
PIPE	1708	1709	400	125	1
PIPE	1801	1803	100	210	1
PIPE	1801	1903BV	100	520	1
PIPE	1801	2102	100	385	1
PIPE	1802	1906	200	520	1

PIPE	1804	1907	100	550	1
PIPE	1901	1903	200	65	1
PIPE	1901BV	2204	200	90	1
PIPE	1901BV2	1906	200	255	1
PIPE	1902	1905	200	210	1
PIPE	1902	2204	200	40	1
PIPE	1903	1904	200	65	1
PIPE	1904BV	1907	100	260	1
PIPE	1905	1906	200	70	1
PIPE	1905	2208	200	250	1
PIPE	1906	1907	200	120	1
PIPE	2001	2002	200	45	1
PIPE	2001	4614	200	85	1
PIPE	2002	2003	200	125	1
PIPE	2003	N2301	200	180	1
PIPE	2003	2303	80	225	1
PIPE	2004	2005	80	30	1
PIPE	2004	2301	80	400	1
PIPE	2006	2304	150	270	1
PIPE	2006	2306	150	70	1
PIPE	2007	N1502	600	1100	0.95
PIPE	2007	2306	150	50	1
PIPE	2007	2307	300	25	1
PIPE	2007	2709	500	265	0.95
PIPE	2008	2009	80	140	1
PIPE	2008BV	2308	80	400	1
PIPE	2101	2102	300	20	1
PIPE	2101	2208	300	215	1
PIPE	2102	2106	300	190	1
PIPE	2103	2104	400	40	1
PIPE	2103	2503	400	85	1
PIPE	2103	2913	200	715	1
PIPE	2104	2105	400	90	1
PIPE	2104	2504	200	240	1
PIPE	2105	2106	400	115	1
PIPE	2105	2605	80	700	1
PIPE	2106	N2101	500	20	0.95
PIPE	2107	2202	100	710	1
PIPE	2108	2206	100	690	1
PIPE	2201	2202	200	140	1
PIPE	2201	2205	200	100	1
PIPE	2201	2605	200	145	1
PIPE	2202	2203	200	60	1
PIPE	2203	2204	200	50	1

PIPE	2203	2206	100	50	1
PIPE	2205	2207	300	30	1
PIPE	2205	2310	300	130	1
PIPE	2207	2208	300	180	1
PIPE	2207	3007	150	750	1
PIPE	2208	2613	200	140	1
PIPE	2302	N2301	200	110	1
PIPE	2302	2303	80	215	1
PIPE	2302	2304	200	245	1
PIPE	2304	2708	200	20	1
PIPE	2305	2306	100	270	1
PIPE	2305	2708	200	30	1
PIPE	2305	2709	200	60	1
PIPE	2307	2709	300	240	1
PIPE	2308	2310	300	70	1
PIPE	2309	3512	100	40	1
PIPE	2309	3515	100	185	1
PIPE	2310	2311	80	120	1
PIPE	2312	2313	100	180	1
PIPE	2312	2314	150	70	1
PIPE	2312	3513	150	190	1
PIPE	2313	3514	100	90	1
PIPE	2313	3518	100	105	1
PIPE	2314	2315	150	60	1
PIPE	2315	3404	150	40	1
PIPE	2316	3516	150	375	1
PIPE	2316	3519	150	270	1
PIPE	2317	2319	100	420	1
PIPE	2317	3628	100	240	1
PIPE	2318	2320	400	380	1
PIPE	2318	3617	400	470	1
PIPE	2318	3808	100	120	1
PIPE	2318	3809	200	210	0.95
PIPE	2319	3408	100	190	1
PIPE	2320	3409	400	370	1
PIPE	2401	2402	150	750	1
PIPE	2401	3301	150	350	1
PIPE	2402	4601	150	55	1
PIPE	2403	2404	100	270	1
PIPE	2403	2405	100	130	1
PIPE	2403	2406	80	120	1
PIPE	2404	2408	100	280	1
PIPE	2405	2411	100	570	1
PIPE	2405	4606	100	160	1

PIPE	2406	2407	80	220	1
PIPE	2407	2409	80	350	1
PIPE	2407	2409	200	350	0.9
PIPE	2408	2701	150	40	1
PIPE	2408	3301	80	240	1
PIPE	2409	2410	80	60	1
PIPE	2409	2410	200	60	0.95
PIPE	2410	2703	80	20	1
PIPE	2410	2703	250	20	0.95
PIPE	2410	2705	80	190	1
PIPE	2410	2705	400	200	0.95
PIPE	2411	2702	100	120	1
PIPE	2501	2609	400	80	1
PIPE	2501	2611	400	210	1
PIPE	2501	3007	150	50	1
PIPE	2502	2503	400	165	1
PIPE	2502	2608	300	500	1
PIPE	2502	2616	400	190	1
PIPE	2503	2606	100	550	1
PIPE	2601	2609	400	170	1
PIPE	2601	3306	400	220	1
PIPE	2602	2603	200	65	1
PIPE	2602	2607	100	45	1
PIPE	2602	3003	200	140	1
PIPE	2603	2604	200	65	1
PIPE	2603	2608	200	60	1
PIPE	2604	2605	200	250	1
PIPE	2604	2606	100	65	1
PIPE	2606	2807	100	190	1
PIPE	2607	2621	100	580	1
PIPE	2610	2617	150	130	1
PIPE	2610	3403	150	445	1
PIPE	2611	2612	150	30	1
PIPE	2611	2614	400	90	1
PIPE	2612	3005	100	310	1
PIPE	2612	3008	150	240	1
PIPE	2614	2616	400	80	1
PIPE	2614	2618	200	145	1
PIPE	2615	2617	150	60	1
PIPE	2615	3407	150	50	1
PIPE	2616	3004	100	440	1
PIPE	2618	2621	200	135	1
PIPE	2619	2620	100	70	1
PIPE	2620	3407	100	190	1



PIPE	2620	3408	100	400	1
PIPE	2620	3408	200	400	0.9
PIPE	2701	2706	150	605	1
PIPE	2701	2901	100	80	1
PIPE	2702	2703	100	100	1
PIPE	2703	2704	80	130	1
PIPE	2705	N2301	300	160	0.95
PIPE	2705	2906	150	290	1
PIPE	2706	2707	200	130	1
PIPE	2706	2912	80	150	1
PIPE	2707	2708	150	130	1
PIPE	2707	2802	150	240	1
PIPE	2709	N2301	300	465	0.95
PIPE	2709	2806	300	350	1
PIPE	2801	2804	150	150	1
PIPE	2801	2910	150	175	1
PIPE	2801	3205	100	310	1
PIPE	2802	2806	200	150	1
PIPE	2802	2911	200	155	1
PIPE	2803	2912	100	270	1
PIPE	2804	2805	300	35	1
PIPE	2804	3102	300	250	1
PIPE	2805	2806	300	100	1
PIPE	2901	2902	100	50	1
PIPE	2902	2903	100	120	1
PIPE	2903	2904	100	90	1
PIPE	2904	2905	100	110	1
PIPE	2905	2906	100	50	1
PIPE	2905	2907	150	100	1
PIPE	2905	2911	200	310	1
PIPE	2905	3201	100	180	1
PIPE	2906	2912	100	295	1
PIPE	2907	2909	150	210	1
PIPE	2908	N2901	200	10	0.95
PIPE	2909	N2901	200	85	1
PIPE	2909	2910	150	65	1
PIPE	2910	2911	150	125	1
PIPE	2911	2912	80	100	1
PIPE	3001	3002	200	190	1
PIPE	3002	3003	200	50	1
PIPE	3002	3006	100	40	1
PIPE	3003	3004	100	55	1
PIPE	3005	3006	100	20	1
PIPE	3007	3103	200	200	1

PIPE	3101	3204	200	330	1
PIPE	3102	3305	300	375	1
PIPE	3201	3202	100	390	1
PIPE	3201	3302	100	300	1
PIPE	3202	N2901	200	140	1
PIPE	3202	3203	100	150	1
PIPE	3203	3204	100	40	1
PIPE	3205	3303	80	240	1
PIPE	3301	3302	80	250	1
PIPE	3302	3303	80	95	1
PIPE	3303	3304	80	200	1
PIPE	3304	3305	80	200	1
PIPE	3401	3402	100	110	1
PIPE	3401	3512	100	175	1
PIPE	3401	3515	100	105	1
PIPE	3402	3403	100	390	1
PIPE	3402	3403	250	150	0.95
PIPE	3402	3511	100	240	1
PIPE	3403	3404	150	80	1
PIPE	3404	3405	150	60	1
PIPE	3405	3406	150	165	1
PIPE	3406	3407	150	460	1
PIPE	3406	3408	150	205	1
PIPE	3406	3408	200	205	0.95
PIPE	3408	3409	300	10	0.95
PIPE	3409	9028	400	495	1
PIPE	3505	3509	150	315	1
PIPE	3506	3507	100	125	1
PIPE	3506	3510	100	65	1
PIPE	3507	3511	100	70	1
PIPE	3509	3516	100	235	1
PIPE	3509	3602	150	450	1
PIPE	3510	3511	100	130	1
PIPE	3510	3512	100	80	1
PIPE	3511	3513	200	90	0.95
PIPE	3513	3514	100	210	1
PIPE	3514	3516	100	110	1
PIPE	3515	3517	100	80	1
PIPE	3516	3518	100	85	1
PIPE	3519	3602	100	390	1
PIPE	3602	N3602	200	10	1
PIPE	3617	N3602	400	250	1
PIPE	3628	3811	100	450	1
PIPE	3808	3809	100	90	1

PIPE	3809	3810	80	170	1
PIPE	3809	3817	100	620	1
PIPE	3810	3814	80	460	1
PIPE	3811	3814	100	220	1
PIPE	3812	3815	100	130	1
PIPE	3812	3816	100	100	1
PIPE	3813	3816	100	70	1
PIPE	3813	3818	100	240	1
PIPE	3814	3817	100	60	1
PIPE	3815	3820	100	120	1
PIPE	3817	3818	100	25	1
PIPE	3819	3820	100	135	1
PIPE	4601	4602	200	40	1
PIPE	4601	4603	200	120	1
PIPE	4602	4604	150	220	1
PIPE	4603	4606	200	180	1
PIPE	4604	N0501	150	450	1
PIPE	4605	4608	80	200	1
PIPE	4606	4607	200	85	1
PIPE	4607	4611	200	265	1
PIPE	4608	4610	80	270	1
PIPE	4611	4613	200	110	1
PIPE	4613	4614	200	145	1
PIPE	4701	B4722	100	150	0.95
PIPE	4701	4702	100	150	1
PIPE	4701	4706	100	240	1
PIPE	4702	B4706	100	200	0.95
PIPE	4702	4717	100	280	1
PIPE	4703	B4730	100	380	0.95
PIPE	4703	B4736	100	370	0.95
PIPE	4703	4704	200	260	1
PIPE	4703	4705	100	320	0.95
PIPE	4705	4709	80	140	1
PIPE	4705	4711	80	300	1
PIPE	4706	B4705	100	250	0.95
PIPE	4706	4707	200	70	1
PIPE	4707	B4724	100	200	0.95
PIPE	4707	B4728	100	330	0.95
PIPE	4707	4713	200	230	1
PIPE	4708	4709	80	130	1
PIPE	4708	4710	200	55	1
PIPE	4710	4712	200	100	1
PIPE	4711	4714	80	60	1
PIPE	4712	4714	200	380	1

PIPE	4713	B4701	100	600	0.95
PIPE	4713	4716	200	210	1
PIPE	4714	4715	200	210	1
PIPE	4715	B4728	100	130	0.95
PIPE	4715	4716	200	220	1
PIPE	4717	B4720	100	550	0.95
PIPE	4717	4718	100	80	1
PIPE	4718	B4708	100	170	0.95
PIPE	4718	4719	100	250	1
PIPE	4719	B4804	100	250	0.95
PIPE	4719	4720	100	180	1
PIPE	4720	B4711	100	220	0.95
PIPE	4720	4807	100	170	1
PIPE	4801	RES716	500	650	0.95
PIPE	4801	4802	80	400	1
PIPE	4802	4803	80	160	1
PIPE	4804	4805	80	150	1
PIPE	4805	4806	80	170	1
PIPE	4807	B4821	100	400	0.95
PIPE	4807	4808	100	130	1
PIPE	4808	B4804	100	210	0.95
PIPE	6501	6502	100	100	1
PIPE	9027	9033	100	400	1
PIPE	9028	9029	400	100	1
PIPE	9029	9031	400	75	1
PIPE	9030	N2101	400	440	1
PIPE	9030	9032	400	70	1
PIPE	9031	9032	400	140	1
PIPE	9036	ZPS6	150	20	1
PIPE	B4734	RESBATR	200	650	0.95
PIPE	0602	0603	200	260	0.95
PIPE	0407D	0409D	100	90	0.95
PIPE	0408D	0409D	100	80	0.95
PIPE	0409D	0411D	100	20	0.95
PIPE	0201	0411D	100	100	0.95
PIPE	3404	3406	200	225	0.95

2. Residual Head (ZARQA 2015)

NODE TOTAL AVAILABLE			
NAME	HEA	HEAD	
		(m)	(m)
"PRESSURE"	0101	645.39	66.89
"PRESSURE"	0102	645.55	49.55
"PRESSURE"	0103	644.43	68.03
"PRESSURE"	0104	644.26	77.26
"PRESSURE"	0105	644.46	72.96
"PRESSURE"	0106	644.46	80.96
"PRESSURE"	0107	644.62	79.82
"PRESSURE"	0108	644.66	81.66
"PRESSURE"	0201	702.71	81.71
"PRESSURE"	0202	702.7	94.7
"PRESSURE"	0203	712.05	99.05
"PRESSURE"	0204	707.38	103.38
"PRESSURE"	0205	702.95	92.95
"PRESSURE"	0206	703.2	89.2
"PRESSURE"	0207	646.12	60.12
"PRESSURE"	0208	702.94	90.44
"PRESSURE"	0209	646.08	59.58
"PRESSURE"	0210	645.62	44.62
"PRESSURE"	0211	645.71	45.71
"PRESSURE"	0212	645.98	61.98
"PRESSURE"	0213	712.22	87.22
"PRESSURE"	0214	712.03	102.03
"PRESSURE"	0301	647.97	51.97
"PRESSURE"	0302	647.62	47.62
"PRESSURE"	0303	648.45	45.45
"PRESSURE"	0304	647.67	54.67
"PRESSURE"	0305	648.26	48.26
"PRESSURE"	0306	647.49	59.59
"PRESSURE"	0307	647.05	55.55
"PRESSURE"	0308	647.05	62.05
"PRESSURE"	0309	647.15	57.15
"PRESSURE"	0310	647.29	55.29

"PRESSURE" 0311	646.64	62.64
"PRESSURE" 0312	646.64	63.14
"PRESSURE" 0313	646.31	63.81
"PRESSURE" 0314	646.14	64.14
"PRESSURE" 0315	646.09	66.29
"PRESSURE" 0316	646.05	67.55
"PRESSURE" 0317	644.36	66.36
"PRESSURE" 0401	712.91	85.41
"PRESSURE" 0402	712.95	87.95
"PRESSURE" 0403	712.87	95.37
"PRESSURE" 0404	712.57	74.57
"PRESSURE" 0405	647.81	44.81
"PRESSURE" 0406	647.83	40.33
"PRESSURE" 0407	648.99	1.99
"PRESSURE" 0407D	702.54	55.54
"PRESSURE" 0408	648.84	23.84
"PRESSURE" 0408D	702.54	77.54
"PRESSURE" 0409	648.52	1.52
"PRESSURE" 0409D	702.55	55.55
"PRESSURE" 0410	647.85	46.15
"PRESSURE" 0411	648.26	1.26
"PRESSURE" 0411D	702.56	55.56
"PRESSURE" 0412	648.69	47.69
"PRESSURE" 0413	648.6	48.6
"PRESSURE" 0501	630.43	90.43
"PRESSURE" 0502	630.79	100.99
"PRESSURE" 0503	689.92	59.92
"PRESSURE" 0504	689.92	44.92
"PRESSURE" 0505	690.07	65.07
"PRESSURE" 0506	689.96	63.96
"PRESSURE" 0507	689.98	64.98
"PRESSURE" 0508	691.55	95.55
"PRESSURE" 0509	691.77	93.77
"PRESSURE" 0510	691.32	101.32
"PRESSURE" 0511	691.23	116.73
"PRESSURE" 0512	692.33	89.83
"PRESSURE" 0513	632.9	54.9
"PRESSURE" 0514	693.43	95.93

"PRESSURE" 0515	632.7	47.7
"PRESSURE" 0516	685.13	116.13
"PRESSURE" 0517	692.23	92.23
"PRESSURE" 0518	694.92	81.92
"PRESSURE" 0519	696.25	84.75
"PRESSURE" 0520	692.45	89.45
"PRESSURE" 0521	697.78	83.78
"PRESSURE" 0522	685.38	95.38
"PRESSURE" 0523	686.73	95.53
"PRESSURE" 0524	689.37	94.37
"PRESSURE" 0525	701.29	86.29
"PRESSURE" 0526	711.71	108.71
"PRESSURE" 0527	711.71	105.21
"PRESSURE" 0602	644.41	66.91
"PRESSURE" 0603	643.84	63.84
"PRESSURE" 0604	643.85	64.25
"PRESSURE" 0605	643.87	64.87
"PRESSURE" 0606	644.47	77.47
"PRESSURE" 0701	639.25	44.25
"PRESSURE" 0702	640.26	40.26
"PRESSURE" 0703	641.29	62.59
"PRESSURE" 0704	638.29	32.29
"PRESSURE" 0705	639.03	29.03
"PRESSURE" 0706	638.22	31.22
"PRESSURE" 0707	638.55	20.55
"PRESSURE" 0708	638.57	34.57
"PRESSURE" 0709	637.75	35.75
"PRESSURE" 0710	638.35	38.35
"PRESSURE" 0711	637.87	47.87
"PRESSURE" 0712	634.01	51.01
"PRESSURE" 0713	643.56	61.56
"PRESSURE" 0801	698.01	93.01
"PRESSURE" 0802	705.16	90.16
"PRESSURE" 0803	695.95	93.95
"PRESSURE" 0804	704.97	97.47
"PRESSURE" 0805	700.01	85.01
"PRESSURE" 0901	708.47	117.47
"PRESSURE" 0902	647.52	47.52

"PRESSURE" 0903	643.76	31.26
"PRESSURE" 0904	644.2	42.2
"PRESSURE" 0905	696.2	100.2
"PRESSURE" 0906	695.87	105.87
"PRESSURE" 1001	711.66	106.66
"PRESSURE" 1002	702.08	118.08
"PRESSURE" 1003	712.51	87.51
"PRESSURE" 1004	703.36	98.36
"PRESSURE" 1005	712.8	101.8
"PRESSURE" 1005A	712.27	101.27
"PRESSURE" 1006	702.11	78.11
"PRESSURE" 1007	702.14	82.14
"PRESSURE" 1008	702.11	92.11
"PRESSURE" 1009	702.1	84.1
"PRESSURE" 1010	702.52	90.52
"PRESSURE" 1011	702.74	94.24
"PRESSURE" 1012	702.22	103.22
"PRESSURE" 1013	702.62	102.62
"PRESSURE" 1014	702.62	102.62
"PRESSURE" 1015	708.64	108.54
"PRESSURE" 1016	708.41	108.41
"PRESSURE" 1101	701.59	93.59
"PRESSURE" 1102	701.54	91.54
"PRESSURE" 1103	701.35	93.85
"PRESSURE" 1104	643.78	37.78
"PRESSURE" 1105	643.75	26.75
"PRESSURE" 1106	640.43	30.43
"PRESSURE" 1107	640.65	25.65
"PRESSURE" 1108	640.19	27.19
"PRESSURE" 1109	639.03	36.03
"PRESSURE" 1201	644.09	43.09
"PRESSURE" 1202	643.87	31.87
"PRESSURE" 1203	644.48	32.48
"PRESSURE" 1204	644.45	35.45
"PRESSURE" 1205	643.53	54.53
"PRESSURE" 1206	643.47	48.57
"PRESSURE" 1207	643.56	43.56
"PRESSURE" 1208	643.43	43.43



"PRESSURE" 1209	643.35	48.35
"PRESSURE" 1210	641.89	29.89
"PRESSURE" 1211	641.44	30.44
"PRESSURE" 1212	643.37	58.57
"PRESSURE" 1213	643.31	53.31
"PRESSURE" 1214	641.57	28.57
"PRESSURE" 1215	643.19	55.69
"PRESSURE" 1216	642.83	56.33
"PRESSURE" 1217	642.78	29.78
"PRESSURE" 1218	643.03	60.53
"PRESSURE" 1301	703.9	83.9
"PRESSURE" 1302	704.73	90.73
"PRESSURE" 1303	644.87	8.47
"PRESSURE" 1304	707.01	87.01
"PRESSURE" 1305	707.8	87.8
"PRESSURE" 1306	705.06	80.56
"PRESSURE" 1401	699.14	117.14
"PRESSURE" 1402	697.78	114.98
"PRESSURE" 1403	695.94	109.94
"PRESSURE" 1404	695.65	104.65
"PRESSURE" 1405	695.65	98.15
"PRESSURE" 1406	698.65	103.65
"PRESSURE" 1407	701.39	96.39
"PRESSURE" 1408	701.4	100.4
"PRESSURE" 1409	702.28	120.78
"PRESSURE" 1410	701.52	90.02
"PRESSURE" 1411	703.57	75.57
"PRESSURE" 1412	701.35	86.35
"PRESSURE" 1413	644.49	24.49
"PRESSURE" 1414	644.75	24.85
"PRESSURE" 1501	644.03	22.03
"PRESSURE" 1502	644.04	24.04
"PRESSURE" 1503	645.05	25.05
"PRESSURE" 1504	645.1	33.1
"PRESSURE" 1505	645.1	28.1
"PRESSURE" 1506	644.45	36.45
"PRESSURE" 1507	644.26	34.26
"PRESSURE" 1601	643.34	42.34

"PRESSURE" 1602	644.02	49.02
"PRESSURE" 1603	643.35	47.35
"PRESSURE" 1604	643.35	49.35
"PRESSURE" 1605	642.37	51.37
"PRESSURE" 1606	643.37	52.37
"PRESSURE" 1607	643.37	53.87
"PRESSURE" 1701	660.6	34.6
"PRESSURE" 1701BV	640.32	14.32
"PRESSURE" 1701PM	644.09	18.09
"PRESSURE" 1702	644.53	22.43
"PRESSURE" 1703	658.84	31.54
"PRESSURE" 1703BV	643.17	15.87
"PRESSURE" 1704	644.57	23.37
"PRESSURE" 1705	644.61	24.61
"PRESSURE" 1706	658.83	37.83
"PRESSURE" 1707	643.17	30.67
"PRESSURE" 1708	643.63	43.63
"PRESSURE" 1709	644.03	41.53
"PRESSURE" 1801	638.92	23.72
"PRESSURE" 1802	642.51	51.01
"PRESSURE" 1803	638.62	47.12
"PRESSURE" 1804	642.05	49.55
"PRESSURE" 1901	658.87	33.87
"PRESSURE" 1901BV	642.21	17.21
"PRESSURE" 1901BV	2642.52	17.52
"PRESSURE" 1902	642.24	25.04
"PRESSURE" 1903	658.87	32.87
"PRESSURE" 1903BV	638.63	12.63
"PRESSURE" 1904	658.85	32.85
"PRESSURE" 1904BV	642.7	16.7
"PRESSURE" 1905	642.42	28.92
"PRESSURE" 1906	642.53	27.13
"PRESSURE" 1907	642.84	34.84
"PRESSURE" 2001	638.29	56.29
"PRESSURE" 2002	638.73	53.73
"PRESSURE" 2003	640.1	52.6
"PRESSURE" 2004	695.7	95.7
"PRESSURE" 2005	696.07	97.07

"PRESSURE"	2006	643.71	35.71
"PRESSURE"	2007	644.28	32.78
"PRESSURE"	2008	659.83	45.63
"PRESSURE"	2008BV	639.72	25.72
"PRESSURE"	2009	658.93	41.63
"PRESSURE"	2101	642.55	45.05
"PRESSURE"	2102	642.49	45.19
"PRESSURE"	2103	641.96	45.26
"PRESSURE"	2104	641.97	44.47
"PRESSURE"	2105	641.98	46.98
"PRESSURE"	2106	642	46.4
"PRESSURE"	2107	642.03	49.53
"PRESSURE"	2108	641.94	49.94
"PRESSURE"	2201	642.19	26.99
"PRESSURE"	2202	642.19	27.19
"PRESSURE"	2203	642.2	24.7
"PRESSURE"	2204	642.21	24.21
"PRESSURE"	2205	642.29	28.29
"PRESSURE"	2206	642.1	26.9
"PRESSURE"	2207	642.3	31.6
"PRESSURE"	2208	642.41	38.91
"PRESSURE"	2301	695.27	105.27
"PRESSURE"	2302	642.38	51.98
"PRESSURE"	2303	640.78	32.08
"PRESSURE"	2304	643.14	43.14
"PRESSURE"	2305	643.46	43.46
"PRESSURE"	2306	643.96	34.96
"PRESSURE"	2307	644.25	34.25
"PRESSURE"	2308	642.28	37.78
"PRESSURE"	2309	633.28	42.78
"PRESSURE"	2310	642.28	33.28
"PRESSURE"	2311	640.84	25.84
"PRESSURE"	2312	635.78	45.78
"PRESSURE"	2313	635.12	50.12
"PRESSURE"	2314	636.39	36.39
"PRESSURE"	2315	636.99	36.99
"PRESSURE"	2316	635.31	48.01
"PRESSURE"	2317	638.09	50.09

"PRESSURE" 2318	639.82	46.52
"PRESSURE" 2319	639.09	27.09
"PRESSURE" 2320	639.88	50.88
"PRESSURE" 2401	632.94	70.44
"PRESSURE" 2402	633.1	60.6
"PRESSURE" 2403	634.12	49.12
"PRESSURE" 2404	634.24	46.24
"PRESSURE" 2405	634.13	54.13
"PRESSURE" 2406	634.65	51.65
"PRESSURE" 2407	641.57	51.57
"PRESSURE" 2408	636.13	45.43
"PRESSURE" 2409	641.76	31.76
"PRESSURE" 2410	641.83	33.03
"PRESSURE" 2411	636.76	35.26
"PRESSURE" 2501	641.93	33.93
"PRESSURE" 2502	641.95	40.05
"PRESSURE" 2503	641.96	40.46
"PRESSURE" 2504	641.96	42.96
"PRESSURE" 2601	641.93	51.33
"PRESSURE" 2602	641.92	23.42
"PRESSURE" 2603	641.94	25.94
"PRESSURE" 2604	641.96	24.96
"PRESSURE" 2605	642.1	25.1
"PRESSURE" 2606	641.92	25.92
"PRESSURE" 2607	641.92	25.42
"PRESSURE" 2608	641.94	25.94
"PRESSURE" 2609	641.93	36.93
"PRESSURE" 2610	637.54	27.44
"PRESSURE" 2611	641.93	32.63
"PRESSURE" 2612	641.93	30.93
"PRESSURE" 2613	642.41	32.91
"PRESSURE" 2614	641.94	34.74
"PRESSURE" 2615	637.89	32.89
"PRESSURE" 2616	641.94	33.44
"PRESSURE" 2617	637.77	30.77
"PRESSURE" 2618	641.93	38.93
"PRESSURE" 2619	639.79	36.29
"PRESSURE" 2620	639.8	34

"PRESSURE" 2621	641.93	41.93
"PRESSURE" 2701	636.33	44.13
"PRESSURE" 2702	638.76	32.46
"PRESSURE" 2703	641.82	31.82
"PRESSURE" 2704	640.88	48.38
"PRESSURE" 2705	641.87	44.47
"PRESSURE" 2706	641.08	31.08
"PRESSURE" 2707	641.45	29.95
"PRESSURE" 2708	643.17	43.17
"PRESSURE" 2709	643.99	42.09
"PRESSURE" 2801	640.84	24.84
"PRESSURE" 2802	641.51	30.01
"PRESSURE" 2803	640.45	23.45
"PRESSURE" 2804	642.5	22.5
"PRESSURE" 2805	642.53	21.53
"PRESSURE" 2806	642.63	25.13
"PRESSURE" 2807	641.82	23.82
"PRESSURE" 2901	636.33	45.33
"PRESSURE" 2902	636.37	43.37
"PRESSURE" 2903	636.9	36.9
"PRESSURE" 2904	637.85	37.55
"PRESSURE" 2905	639.97	37.97
"PRESSURE" 2906	640.74	38.34
"PRESSURE" 2907	639.81	34.81
"PRESSURE" 2908	639.4	19.4
"PRESSURE" 2909	639.64	20.64
"PRESSURE" 2910	640.26	18.26
"PRESSURE" 2911	640.61	60.61
"PRESSURE" 2912	640.59	35.59
"PRESSURE" 2913	641.93	24.73
"PRESSURE" 3001	641.88	32.78
"PRESSURE" 3002	641.88	26.88
"PRESSURE" 3003	641.89	22.89
"PRESSURE" 3004	641.88	23.88
"PRESSURE" 3005	641.86	26.86
"PRESSURE" 3006	641.86	26.86
"PRESSURE" 3007	641.93	32.63
"PRESSURE" 3008	641.91	36.81

"PRESSURE" 3101	634.19	38.79
"PRESSURE" 3102	642.46	32.36
"PRESSURE" 3103	641.92	34.42
"PRESSURE" 3201	637.66	65.16
"PRESSURE" 3202	639.08	69.08
"PRESSURE" 3203	634.67	61.67
"PRESSURE" 3204	634.2	56.7
"PRESSURE" 3205	636.47	51.47
"PRESSURE" 3301	632.97	72.37
"PRESSURE" 3302	634.11	68.61
"PRESSURE" 3303	634.13	74.13
"PRESSURE" 3304	634.75	72.75
"PRESSURE" 3305	642.42	71.42
"PRESSURE" 3306	641.93	70.43
"PRESSURE" 3401	633.73	28.73
"PRESSURE" 3402	636.8	31.8
"PRESSURE" 3403	636.9	33.3
"PRESSURE" 3404	637.43	32.43
"PRESSURE" 3405	637.62	36.62
"PRESSURE" 3406	638.47	28.47
"PRESSURE" 3407	638.01	30.31
"PRESSURE" 3408	639.91	27.41
"PRESSURE" 3409	639.94	27.44
"PRESSURE" 3505	637.47	73.47
"PRESSURE" 3506	633.59	59.59
"PRESSURE" 3507	634.01	59.01
"PRESSURE" 3509	637.58	72.98
"PRESSURE" 3510	633.58	51.18
"PRESSURE" 3511	634.84	51.84
"PRESSURE" 3512	633.36	41.86
"PRESSURE" 3513	634.91	53.11
"PRESSURE" 3514	635.03	52.03
"PRESSURE" 3515	633.12	38.12
"PRESSURE" 3516	635.24	49.54
"PRESSURE" 3517	632.9	30.9
"PRESSURE" 3518	635.1	40.1
"PRESSURE" 3519	635.4	51.4
"PRESSURE" 3602	639.73	66.73

"PRESSURE" 3617	639.78	54.98
"PRESSURE" 3628	637.85	43.85
"PRESSURE" 3808	639.78	34.78
"PRESSURE" 3809	639.77	44.77
"PRESSURE" 3810	638.99	33.99
"PRESSURE" 3811	637.8	50.3
"PRESSURE" 3812	636.6	47.1
"PRESSURE" 3813	636.9	39.9
"PRESSURE" 3814	637.8	48.8
"PRESSURE" 3815	636.49	43.49
"PRESSURE" 3816	636.74	40.74
"PRESSURE" 3817	637.77	47.27
"PRESSURE" 3818	637.67	47.17
"PRESSURE" 3819	636.43	29.43
"PRESSURE" 3820	636.44	28.44
"PRESSURE" 4601	633.17	65.47
"PRESSURE" 4602	633.13	65.43
"PRESSURE" 4603	633.5	58.5
"PRESSURE" 4604	632.92	50.42
"PRESSURE" 4605	689.25	123.05
"PRESSURE" 4606	634.13	61.63
"PRESSURE" 4607	634.5	58.5
"PRESSURE" 4608	690.37	102.37
"PRESSURE" 4609	710.55	120.55
"PRESSURE" 4610	696.25	117.25
"PRESSURE" 4611	635.87	55.87
"PRESSURE" 4612	702.95	121.95
"PRESSURE" 4613	636.55	57.55
"PRESSURE" 4614	637.59	55.09
"PRESSURE" 4701	644.7	79.7
"PRESSURE" 4702	644.6	74.6
"PRESSURE" 4703	645.59	68.59
"PRESSURE" 4704	645.59	48.59
"PRESSURE" 4705	645.36	67.86
"PRESSURE" 4706	644.91	89.91
"PRESSURE" 4707	644.92	84.92
"PRESSURE" 4708	645.35	72.85
"PRESSURE" 4709	645.35	69.85

"PRESSURE" 4710	645.33	77.33
"PRESSURE" 4711	645.15	77.65
"PRESSURE" 4712	645.28	81.28
"PRESSURE" 4713	644.94	95.14
"PRESSURE" 4714	645.14	82.14
"PRESSURE" 4715	645.06	94.06
"PRESSURE" 4716	645	94
"PRESSURE" 4717	644.51	64.51
"PRESSURE" 4718	644.49	49.49
"PRESSURE" 4719	644.49	44.49
"PRESSURE" 4720	644.5	39.5
"PRESSURE" 4801	715.29	43.29
"PRESSURE" 4802	713.9	61.9
"PRESSURE" 4803	713.36	73.36
"PRESSURE" 4804	712.78	66.78
"PRESSURE" 4805	712.78	66.78
"PRESSURE" 4806	712.78	92.78
"PRESSURE" 4807	644.5	44.5
"PRESSURE" 4808	644.49	54.49
"PRESSURE" 6501	630.33	90.33
"PRESSURE" 6502	630.33	90.33
"PRESSURE" 9027		*Isolated*
"PRESSURE" 9028	640.71	37.71
"PRESSURE" 9029	640.87	40.87
"PRESSURE" 9030	641.31	42.51
"PRESSURE" 9031	640.98	35.98
"PRESSURE" 9032	641.2	41.2
"PRESSURE" 9033		*Isolated*
"PRESSURE" 9036	644.62	70.62
"PRESSURE" B0501	724.69	49.69
"PRESSURE" B0503	724.47	34.47
"PRESSURE" B504PI	715.97	1.97
"PRESSURE" B505PI	725	11
"PRESSURE" B4701	644.55	94.55
"PRESSURE" B4702	644.51	94.51
"PRESSURE" B4703	644.47	89.47
"PRESSURE" B4704	644.45	94.45
"PRESSURE" B4705	644.65	84.65



"PRESSURE" B4706	644.6	69.6
"PRESSURE" B4707	644.58	79.58
"PRESSURE" B4708	644.47	54.47
"PRESSURE" B4709	644.45	64.45
"PRESSURE" B4710	644.45	69.45
"PRESSURE" B4711	644.55	44.55
"PRESSURE" B4712	644.63	54.63
"PRESSURE" B4713	645.17	50.17
"PRESSURE" B4714	645.27	60.27
"PRESSURE" B4715	645.31	60.31
"PRESSURE" B4716	645.16	60.16
"PRESSURE" B4717	644.81	59.81
"PRESSURE" B4718	644.67	54.67
"PRESSURE" B4719	644.65	64.65
"PRESSURE" B4720	644.55	64.55
"PRESSURE" B4721	644.63	79.63
"PRESSURE" B4722	644.71	79.71
"PRESSURE" B4723	644.81	79.81
"PRESSURE" B4724	644.9	79.9
"PRESSURE" B4725	645.05	80.05
"PRESSURE" B4726	645.22	65.22
"PRESSURE" B4727	645.9	60.9
"PRESSURE" B4728	645.04	85.04
"PRESSURE" B4729	645.12	85.12
"PRESSURE" B4730	645.48	75.48
"PRESSURE" B4731	645.74	70.74
"PRESSURE" B4732	646.23	71.23
"PRESSURE" B4733	647.74	62.74
"PRESSURE" B4734	647.97	52.97
"PRESSURE" B4735	647.13	37.13
"PRESSURE" B4736	646.24	51.24
"PRESSURE" B4801	644.46	59.46
"PRESSURE" B4802	644.47	74.47
"PRESSURE" B4803	644.48	69.48
"PRESSURE" B4804	644.49	54.49
"PRESSURE" B4805	644.46	69.46
"PRESSURE" B4806	644.46	54.46
"PRESSURE" B4807	644.47	64.47

"PRESSURE" B4808	644.47	54.47
"PRESSURE" B4809	644.47	39.47
"PRESSURE" B4810	644.47	59.47
"PRESSURE" B4811	644.47	39.47
"PRESSURE" B4812	715.47	100.47
"PRESSURE" B4813	715.47	120.47
"PRESSURE" B4814	715.47	105.47
"PRESSURE" B4815	644.5	59.5
"PRESSURE" B4816	644.51	54.51
"PRESSURE" B4817	644.5	44.5
"PRESSURE" B4818	644.5	44.5
"PRESSURE" B4820	644.5	39.5
"PRESSURE" B4821	644.52	44.52
"PRESSURE" B4822	645.26	45.26
"PRESSURE" B4823	645.26	45.26
"PRESSURE" B4824	645.44	30.44
"PRESSURE" B4825	645.78	55.78
"PRESSURE" B4826	645.4	35.4
"PRESSURE" B4827	724.59	44.59
"PRESSURE" B4828	724.53	34.53
"PRESSURE" B4829	724.52	34.52
"PRESSURE" B4830	724.51	49.51
"PRESSURE" B4831	715.42	65.42
"PRESSURE" B4832	724.51	74.51
"PRESSURE" B4833	715.42	70.42
"PRESSURE" B4834	715.42	95.42
"PRESSURE" B4835	724.5	74.5
"PRESSURE" B4836	715.58	65.58
"PRESSURE" B4837	715.57	65.57
"PRESSURE" B4838	715.48	55.48
"PRESSURE" B4839	715.42	85.42
"PRESSURE" B4840	715.42	60.42
"PRESSURE" B4841	724.52	54.52
"PRESSURE" B4842	724.52	49.52
"PRESSURE" B4843	715.61	85.61
"PRESSURE" B4844	715.76	65.76
"PRESSURE" B4845	715.59	75.59
"PRESSURE" B4846	715.59	80.59

"PRESSURE"	B4847	715.55	75.55
"PRESSURE"	B4848	715.53	75.53
"PRESSURE"	B4849	715.52	75.52
"PRESSURE"	B4850	715.52	75.52
"PRESSURE"	B4851	715.52	100.52
"PRESSURE"	B4852	715.48	105.48
"PRESSURE"	B4853	715.43	100.43
"PRESSURE"	B4854	715.42	75.42
"PRESSURE"	B4855	715.42	70.42
"PRESSURE"	B4856	715.42	100.42
"PRESSURE"	B4857	715.41	100.41
"PRESSURE"	B4858	715.41	105.41
"PRESSURE"	B4859	715.41	75.41
"PRESSURE"	B4860	715.41	70.41
"PRESSURE"	B4861	715.41	90.41
"PRESSURE"	B4862	715.41	90.41
"PRESSURE"	B4863	715.41	65.41
"PRESSURE"	B4864	715.41	80.41
"PRESSURE"	B4865	715.56	65.56
"PRESSURE"	B4866	715.55	50.55
"PRESSURE"	B4867	715.53	65.53
"PRESSURE"	B4868	715.53	80.53
"PRESSURE"	B4869	715.52	105.52
"PRESSURE"	B4870	715.52	70.52
"PRESSURE"	B4871	715.52	60.52
"PRESSURE"	B4872	715.52	70.52
"PRESSURE"	B4873	715.52	90.52
"PRESSURE"	B4874	715.52	80.52
"PRESSURE"	B4875	715.52	95.52
"PRESSURE"	B4876	715.52	65.52
"PRESSURE"	B4877	715.51	60.51
"PRESSURE"	B4878	715.48	50.48
"PRESSURE"	B4879	715.48	75.48
"PRESSURE"	B4880	715.47	60.47
"PRESSURE"	B4881	715.47	35.47
"PRESSURE"	B4882	715.47	80.47
"PRESSURE"	B4883	715.47	75.47
"PRESSURE"	B4884	715.47	80.47

"PRESSURE" B4885	724.5	74.5
"PRESSURE" B4886	724.49	54.49
"PRESSURE" B4887	715.86	65.86
"PRESSURE" B4888	724.56	49.56
"PRESSURE" B4889	715.41	90.41
"PRESSURE" B4890	715.47	75.47
"PRESSURE" B4891	715.47	100.47
"PRESSURE" B4892	715.46	125.46
"PRESSURE" B4901	713.71	188.71
"PRESSURE" B4902	713.71	188.71
"PRESSURE" B4903	713.71	153.71
"PRESSURE" B4904	713.71	103.71
"PRESSURE" B4905	713.71	103.71
"PRESSURE" B4906	713.71	133.71
"PRESSURE" B4907	713.71	153.71
"PRESSURE" B4908	713.71	138.71
"PRESSURE" B4909	713.71	173.71
"PRESSURE" B4910	713.71	163.71
"PRESSURE" B4911	713.71	88.71
"PRESSURE" B4912	713.71	133.71
"PRESSURE" B4913	713.71	103.71
"PRESSURE" B4914	713.71	173.71
"PRESSURE" B4915	713.71	153.71
"PRESSURE" B4916	713.71	203.71
"PRESSURE" B6501	713.93	183.93
"PRESSURE" B6502	713.75	178.75
"PRESSURE" B6503	713.73	183.73
"PRESSURE" B6504	713.72	163.72
"PRESSURE" B6505	713.73	183.73
"PRESSURE" B6506	713.68	183.68
"PRESSURE" B6507	713.67	188.67
"PRESSURE" B6508	713.68	208.68
"PRESSURE" B6509	713.71	203.71
"PRESSURE" N0501	711.72	106.72
"PRESSURE" N0901	707.98	107.98
"PRESSURE" N0902	646.51	46.51
"PRESSURE" N1201	644.48	40.48
"PRESSURE" N1301	645.39	22.39

"PRESSURE"	N1302	645.39	22.39
"PRESSURE"	N1401	703.36	73.36
"PRESSURE"	N1402	702.57	98.57
"PRESSURE"	N1501	645.1	27.1
"PRESSURE"	N1502	645.11	27.11
"PRESSURE"	N1601	643.37	55.37
"PRESSURE"	N2101	641.99	47.99
"PRESSURE"	N2301	642.15	52.15
"PRESSURE"	N2901	639.4	24.4
"PRESSURE"	N3602	639.76	66.76
"PRESSURE"	R716IN	719	0
"PRESSURE"	RBRIN	652	0
"PRESSURE"	RBARP	725.51	78.51
"PRESSURE"	RE716	716	2
"PRESSURE"	RESBA	649	2
"PRESSURE"	ZPS4	644.46	70.46
"PRESSURE"	ZPS5	644.46	70.46
"PRESSURE"	ZPS6	644.65	70.65
"PRESSURE"	ZPS7	644.66	70.66

## II. RUSAIFA & AWAJAN AREA (2015)

### 1. Node Data (Rusaifa & Awajan 2015)

	Node	Node	Dia. (mm)	L (m)	Roughness
PIPE	B181N	RES18	150	60	1
PIPE	B3802	B3803	100	70	0.95
PIPE	B3802	B3804	100	130	0.95
PIPE	B3805	B3806	100	310	0.95
PIPE	B3805	B3807	200	330	0.95
PIPE	B3807	B3808	100	310	0.95
PIPE	B3807	B3810	100	270	0.95
PIPE	B3808	B3809	100	110	0.95
PIPE	B3808	B3812	100	130	0.95
PIPE	B3809	B3817	100	225	0.95
PIPE	B3810	B3811	100	100	0.95
PIPE	B3810	B3813	100	170	0.95
PIPE	B3811	B3812	100	120	0.95
PIPE	B3811	B3815	100	140	0.95
PIPE	B3812	B3816	100	210	0.95
PIPE	B3813	B3814	100	90	0.95
PIPE	B3813	B3819	100	260	0.95
PIPE	B3813	B3820	100	400	0.95
PIPE	B3814	B3815	100	50	0.95
PIPE	B3815	B3816	100	200	0.95
PIPE	B3816	B3817	100	100	0.95
PIPE	B3817	B3818	100	255	0.95
PIPE	B3819	B3820	100	70	0.95
PIPE	B3819	B3820	100	560	0.95
PIPE	B4101	B4102	100	110	0.95
PIPE	B4102	B4103	100	150	0.95
PIPE	B4102	B4105	100	240	0.95
PIPE	B4103	B4104	100	220	0.95
PIPE	B4103	B4107	100	350	0.95
PIPE	B4104	B4106	100	520	0.95
PIPE	B4108	B4109	100	170	0.95
PIPE	B4108	B4110	100	230	0.95
PIPE	B4109	B4114	100	100	0.95
PIPE	B4109	B4122	100	120	0.95

PIPE	B4110	B4111	100	370	0.95
PIPE	B4110	B4113	100	350	0.95
PIPE	B4111	B4112	100	180	0.95
PIPE	B4111	B4125	100	120	0.95
PIPE	B4112	B4113	100	200	0.95
PIPE	B4112	B4115	100	335	0.95
PIPE	B4113	B4114	100	200	0.95
PIPE	B4113	B4116	100	150	0.95
PIPE	B4114	B4120	100	170	0.95
PIPE	B4115	B4131	100	300	0.95
PIPE	B4116	B4117	100	80	0.95
PIPE	B4116	B4120	100	220	0.95
PIPE	B4117	B4118	100	130	0.95
PIPE	B4117	B4121	100	220	0.95
PIPE	B4118	B4119	100	80	0.95
PIPE	B4118	B4124	100	370	0.95
PIPE	B4120	B4121	100	110	0.95
PIPE	B4120	B4123	100	160	0.95
PIPE	B4121	B4124	100	250	0.95
PIPE	B4122	B4123	100	180	0.95
PIPE	B4125	B4126	100	100	0.95
PIPE	B4125	B4127	100	400	0.95
PIPE	B4127	B4128	100	450	0.95
PIPE	B4127	B4129	100	190	0.95
PIPE	B4129	B4130	100	330	0.95
PIPE	B4129	B4131	100	190	0.95
PIPE	B4131	B4132	100	250	0.95
PIPE	B4131	B4133	100	420	0.95
PIPE	B4201	B4202	100	100	0.95
PIPE	B4202	B4203	100	290	0.95
PIPE	B4202	B4204	100	470	0.95
PIPE	B4203	B4204	100	230	0.95
PIPE	B4205	B4206	100	240	0.95
PIPE	B4206	B4207	100	360	0.95
PIPE	B4207	B4208	100	210	0.95
PIPE	B4341	B4342	100	390	0.95
PIPE	B4341	B4343	100	150	0.95
PIPE	B4343	B4344	100	260	0.95

PIPE	B4344	B4345	200	160	0.95
PIPE	B4345	B4346	100	140	0.95
PIPE	B4345	B4348	100	490	0.95
PIPE	B4346	B4347	100	250	0.95
PIPE	B4346	B4348	100	220	0.95
PIPE	B4347	B4349	100	240	0.95
PIPE	B4348	B4358	100	300	0.95
PIPE	B4349	B4350	100	335	0.95
PIPE	B4349	B4358	100	70	0.95
PIPE	B4350	B4351	100	470	0.95
PIPE	B4351	B4352	100	50	0.95
PIPE	B4352	B4353	100	70	0.95
PIPE	B4352	B4354	100	700	0.95
PIPE	B4353	B4355	100	240	0.95
PIPE	B4353	B4357	100	230	0.95
PIPE	B4356	B4357	100	150	0.95
PIPE	B4401	B4402	100	125	0.95
PIPE	B4401	B4403	100	70	0.95
PIPE	B4401	B4406	100	700	0.95
PIPE	B4401	N4402	100	100	0.95
PIPE	B4402	B4404	100	290	0.95
PIPE	B4403	B4408	100	580	0.95
PIPE	B4404	B4405	100	360	0.95
PIPE	B4404	B4411	100	170	0.95
PIPE	B4405	B4406	100	130	0.95
PIPE	B4405	B4419	100	280	0.95
PIPE	B4406	B4407	100	90	0.95
PIPE	B4406	B4439	100	120	0.95
PIPE	B4407	B4408	100	120	0.95
PIPE	B4408	B4409	100	140	0.95
PIPE	B4409	B4410	100	670	0.95
PIPE	B4409	B4441	100	130	0.95
PIPE	B4411	B4412	100	190	0.95
PIPE	B4412	B4413	100	440	0.95
PIPE	B4412	B4417	100	330	0.95
PIPE	B4413	B4414	100	100	0.95
PIPE	B4414	B4415	100	50	0.95
PIPE	B4414	B4416	100	190	0.95



PIPE	B4416	B4417	100	470	0.95
PIPE	B4417	B4418	100	70	0.95
PIPE	B4418	B4419	100	160	0.95
PIPE	B4420	B4421	100	310	0.95
PIPE	B4421	B4422	100	390	0.95
PIPE	B4422	B4423	100	170	0.95
PIPE	B4423	B4424	100	380	0.95
PIPE	B4423	B4434	100	170	0.95
PIPE	B4423	B4435	100	190	0.95
PIPE	B4424	B4425	100	360	0.95
PIPE	B4425	B4426	100	300	0.95
PIPE	B4425	B5203	100	110	0.95
PIPE	B4426	B4427	100	340	0.95
PIPE	B4426	B4433	100	340	0.95
PIPE	B4426	B5202	100	430	0.95
PIPE	B4427	B4428	100	80	0.95
PIPE	B4427	B4436	100	150	0.95
PIPE	B4428	B4429	100	90	0.95
PIPE	B4428	B4430	100	70	0.95
PIPE	B4429	B4433	100	190	0.95
PIPE	B4430	B4431	100	200	0.95
PIPE	B4430	B4432	100	410	0.95
PIPE	B4431	B4432	100	170	0.95
PIPE	B4433	B4434	100	160	0.95
PIPE	B4435	B4438	300	510	1
PIPE	B4435	N4401	300	400	1
PIPE	B4436	B4437	100	190	0.95
PIPE	B4436	B5201	100	250	0.95
PIPE	B4437	B4438	300	410	1
PIPE	B4437	B4545	300	830	1
PIPE	B4439	B4440	100	240	0.95
PIPE	B4439	B4445	100	340	0.95
PIPE	B4441	B4442	100	480	0.95
PIPE	B4441	B4445	100	260	0.95
PIPE	B4442	B4443	100	190	0.95
PIPE	B4442	B4444	100	670	0.95
PIPE	B4443	B4444	300	660	1
PIPE	B4443	N4402	300	580	1

PIPE	B4445	B4446	100	260	0.95
PIPE	B4450	B4451	100	240	0.95
PIPE	B4450	B5230	100	400	0.95
PIPE	B4451	B5233	100	650	0.95
PIPE	B4501	B4502	100	380	0.95
PIPE	B4502	B4503	200	90	0.95
PIPE	B4503	B4513	200	450	0.95
PIPE	B4504	B4505	150	120	1
PIPE	B4505	B4506	100	270	0.95
PIPE	B4506	B4507	100	100	0.95
PIPE	B4507	B4508	100	210	0.95
PIPE	B4507	B4510	100	200	0.95
PIPE	B4508	B4511	100	390	0.95
PIPE	B4509	B4510	100	230	0.95
PIPE	B4511	B4512	100	140	0.95
PIPE	B4512	B4513	100	100	0.95
PIPE	B4513	B4514	200	350	0.95
PIPE	B4514	B4515	100	170	0.95
PIPE	B4515	B4519	100	190	0.95
PIPE	B4515	B4520	100	240	0.95
PIPE	B4516	B4517	100	280	0.95
PIPE	B4516	B4526	100	330	0.95
PIPE	B4517	B4518	100	110	0.95
PIPE	B4518	B4519	100	160	0.95
PIPE	B4518	B4521	100	200	0.95
PIPE	B4519	B4520	100	130	0.95
PIPE	B4520	B4522	100	580	0.95
PIPE	B4521	B4522	100	230	0.95
PIPE	B4521	B4527	100	420	0.95
PIPE	B4522	B4901	100	290	0.95
PIPE	B4524	B4525	100	180	0.95
PIPE	B4524	B4526	100	340	0.95
PIPE	B4525	B4531	100	300	0.95
PIPE	B4526	B4527	100	410	0.95
PIPE	B4527	B4528	100	60	0.95
PIPE	B4528	B4529	100	330	0.95
PIPE	B4528	B4531	100	250	0.95
PIPE	B4529	B4530	100	160	0.95

PIPE	B4529	B4901	100	320	0.95
PIPE	B4530	B4531	100	330	0.95
PIPE	B4545	B4546	100	350	0.95
PIPE	B4545	B4553	100	360	0.95
PIPE	B4545	B5215	300	570	1
PIPE	B4546	B4547	100	310	0.95
PIPE	B4547	B4548	100	240	0.95
PIPE	B4548	B4549	100	210	0.95
PIPE	B4549	B4550	100	380	0.95
PIPE	B4550	B4551	100	340	0.95
PIPE	B4550	B4555	100	200	0.95
PIPE	B4551	B4552	100	160	0.95
PIPE	B4551	B4554	100	160	0.95
PIPE	B4552	B4553	100	80	0.95
PIPE	B4554	B4555	100	320	0.95
PIPE	B4554	B4558	100	380	0.95
PIPE	B4555	B4556	100	120	0.95
PIPE	B4556	B4557	100	160	0.95
PIPE	B4556	B5001	100	330	0.95
PIPE	B4558	B4559	100	70	0.95
PIPE	B4559	B5001	100	110	0.95
PIPE	B4559	B5002	100	50	0.95
PIPE	B4901	B4902	100	120	0.95
PIPE	B4902	B4903	100	340	0.95
PIPE	B4902	B4904	100	400	0.95
PIPE	B4904	B4905	100	380	0.95
PIPE	B4904	B4906	100	180	0.95
PIPE	B4906	B4907	100	90	0.95
PIPE	B4907	B4908	100	350	0.95
PIPE	B4907	B4909	100	75	0.95
PIPE	B4909	B4910	100	220	0.95
PIPE	B4909	B4911	100	280	0.95
PIPE	B4915	B5042	100	1250	0.95
PIPE	B4916	B4917	100	250	0.95
PIPE	B4916	B4918	100	550	0.95
PIPE	B4916	B4919	100	375	0.95
PIPE	B5001	B5004	100	1220	0.95
PIPE	B5002	B5003	100	1160	0.95

PIPE	B5004	B5005	100	140	0.95
PIPE	B5005	B5006	100	400	0.95
PIPE	B5010	B5115	300	1280	1
PIPE	B5010	B5215	300	150	1
PIPE	B5011	B5012	200	300	0.95
PIPE	B5012	B5013	200	200	0.95
PIPE	B5012	B5017	100	240	0.95
PIPE	B5013	B5014	100	200	0.95
PIPE	B5013	B5018	100	240	0.95
PIPE	B5014	B5015	100	1300	0.95
PIPE	B5014	B5020	100	240	0.95
PIPE	B5015	B5037	100	140	0.95
PIPE	B5015	B5038	100	110	0.95
PIPE	B5016	B5017	100	180	0.95
PIPE	B5017	B5018	100	210	0.95
PIPE	B5018	B5019	100	80	0.95
PIPE	B5019	B5020	100	90	0.95
PIPE	B5019	B5022	100	300	0.95
PIPE	B5020	B5021	100	1200	0.95
PIPE	B5021	B5029	100	190	0.95
PIPE	B5021	B5037	100	150	0.95
PIPE	B5022	B5023	100	100	0.95
PIPE	B5022	B5024	100	370	0.95
PIPE	B5023	B5025	100	700	0.95
PIPE	B5023	B5026	100	100	0.95
PIPE	B5026	B5027	100	600	0.95
PIPE	B5026	B5028	100	380	0.95
PIPE	B5030	B5031	100	215	0.95
PIPE	B5030	B5034	100	700	0.95
PIPE	B5031	B5035	100	550	0.95
PIPE	B5032	B5033	100	100	0.95
PIPE	B5032	B5036	100	400	0.95
PIPE	B5037	B5044	100	600	0.95
PIPE	B5038	B5039	100	130	0.95
PIPE	B5038	B5043	100	450	0.95
PIPE	B5039	B5040	100	25	0.95
PIPE	B5039	B5042	100	450	0.95
PIPE	B5040	B5041	100	400	0.95

PIPE	B5101	B5102	100	60	0.95
PIPE	B5101	B5103	100	380	0.95
PIPE	B5101	B5216	100	100	0.95
PIPE	B5102	B5103	100	380	0.95
PIPE	B5103	B5104	100	130	0.95
PIPE	B5104	B5105	100	60	0.95
PIPE	B5104	B5108	100	140	0.95
PIPE	B5105	B5106	100	240	0.95
PIPE	B5105	B5107	100	330	0.95
PIPE	B5106	B5216	100	390	0.95
PIPE	B5107	B5218	100	500	0.95
PIPE	B5108	B5109	100	110	0.95
PIPE	B5109	B5110	100	90	0.95
PIPE	B5109	B5111	100	100	0.95
PIPE	B5110	B5116	100	80	0.95
PIPE	B5111	B5112	100	140	0.95
PIPE	B5112	B5113	100	220	0.95
PIPE	B5113	B5114	100	170	0.95
PIPE	B5113	B5116	100	350	0.95
PIPE	B5114	B5115	100	630	0.95
PIPE	B5116	B5117	100	150	0.95
PIPE	B5120	B5121	100	80	0.95
PIPE	B5120	B5130	100	310	0.95
PIPE	B5120	B5131	100	170	0.95
PIPE	B5120	B5273	100	200	0.95
PIPE	B5121	B5122	100	270	0.95
PIPE	B5121	B5126	100	160	0.95
PIPE	B5122	B5123	100	150	0.95
PIPE	B5123	B5124	100	70	0.95
PIPE	B5123	B5125	100	70	0.95
PIPE	B5124	B5127	100	320	0.95
PIPE	B5125	B5126	100	260	0.95
PIPE	B5125	B5128	100	240	0.95
PIPE	B5126	B5129	100	180	0.95
PIPE	B5127	B5128	100	110	0.95
PIPE	B5127	B5136	100	1200	0.95
PIPE	B5128	B5129	100	120	0.95
PIPE	B5129	B5130	100	100	0.95

PIPE	B5130	B5137	100	200	0.95
PIPE	B5131	B5132	100	100	0.95
PIPE	B5131	B5273	100	450	0.95
PIPE	B5132	B5133	100	390	0.95
PIPE	B5132	B5138	100	280	0.95
PIPE	B5133	B5134	100	310	0.95
PIPE	B5133	B5138	100	230	0.95
PIPE	B5134	B5135	100	170	0.95
PIPE	B5135	B5136	100	400	0.95
PIPE	B5136	B5137	100	100	0.95
PIPE	B5137	B5138	100	220	0.95
PIPE	B5201	B5202	100	170	0.95
PIPE	B5202	B5205	100	330	0.95
PIPE	B5203	B5204	100	350	0.95
PIPE	B5203	B5210	100	620	0.95
PIPE	B5204	B5205	100	150	0.95
PIPE	B5204	B5208	100	425	0.95
PIPE	B5205	B5206	100	380	0.95
PIPE	B5206	B5207	100	190	0.95
PIPE	B5207	B5208	100	160	0.95
PIPE	B5207	B5209	100	480	0.95
PIPE	B52100	B52101	100	110	0.95
PIPE	B52100	B5299	100	150	0.95
PIPE	B52101	B52102	100	400	0.95
PIPE	B52102	B52103	100	130	0.95
PIPE	B52103	B52104	100	115	0.95
PIPE	B52104	B52105	100	180	0.95
PIPE	B52104	B52107	100	390	0.95
PIPE	B52105	B52106	100	230	0.95
PIPE	B52105	B5296	100	490	0.95
PIPE	B52106	B52108	100	500	0.95
PIPE	B52106	B5301	100	430	0.95
PIPE	B52107	B52108	100	130	0.95
PIPE	B52108	B52109	100	100	0.95
PIPE	B5215	B5216	100	200	0.95
PIPE	B5216	B5217	100	820	0.95
PIPE	B5217	B5218	100	300	0.95
PIPE	B5218	B5219	100	200	0.95

PIPE	B5219	B5220	100	80	0.95
PIPE	B5220	B5221	100	360	0.95
PIPE	B5220	B5222	100	170	0.95
PIPE	B5222	B5223	100	250	0.95
PIPE	B5223	B5224	100	210	0.95
PIPE	B5224	B5225	100	290	0.95
PIPE	B5230	B5231	100	410	0.95
PIPE	B5231	B5232	100	110	0.95
PIPE	B5231	B5234	100	280	0.95
PIPE	B5232	B5233	100	190	0.95
PIPE	B5232	B5240	100	460	0.95
PIPE	B5234	B5235	100	160	0.95
PIPE	B5235	B5236	100	370	0.95
PIPE	B5235	B5237	100	135	0.95
PIPE	B5236	B5239	100	230	0.95
PIPE	B5236	B5240	100	200	0.95
PIPE	B5237	B5238	100	110	0.95
PIPE	B5237	B5241	100	370	0.95
PIPE	B5238	B5239	100	180	0.95
PIPE	B5238	B5242	100	280	0.95
PIPE	B5239	B5243	100	470	0.95
PIPE	B5240	B5253	100	300	0.95
PIPE	B5241	B5242	100	250	0.95
PIPE	B5242	B5243	100	300	0.95
PIPE	B5243	B5244	100	160	0.95
PIPE	B5244	B5245	100	660	0.95
PIPE	B5244	B5247	100	100	0.95
PIPE	B5245	B5246	100	670	0.95
PIPE	B5246	B5247	100	230	0.95
PIPE	B5247	B5248	100	90	0.95
PIPE	B5248	B5249	100	270	0.95
PIPE	B5248	B5249	100	520	0.95
PIPE	B5249	B5250	100	480	0.95
PIPE	B5250	B5251	100	380	0.95
PIPE	B5251	B5252	100	70	0.95
PIPE	B5251	B5254	100	200	0.95
PIPE	B5252	B5253	100	180	0.95
PIPE	B5254	B5255	100	120	0.95

PIPE	B5255	B5256	100	180	0.95
PIPE	B5256	B5257	100	260	0.95
PIPE	B5256	B5263	100	470	0.95
PIPE	B5257	B5258	100	160	0.95
PIPE	B5258	B5259	100	210	0.95
PIPE	B5258	B5265	100	230	0.95
PIPE	B5259	B5260	100	90	0.95
PIPE	B5259	B5264	100	200	0.95
PIPE	B5260	B5261	100	220	0.95
PIPE	B5260	B5262	100	210	0.95
PIPE	B5262	B5263	100	80	0.95
PIPE	B5264	B5265	100	190	0.95
PIPE	B5265	B5266	100	160	0.95
PIPE	B5266	B5267	100	150	0.95
PIPE	B5267	B5268	100	590	0.95
PIPE	B5267	B5269	100	110	0.95
PIPE	B5269	B5270	100	80	0.95
PIPE	B5269	B5278	100	300	0.95
PIPE	B5270	B5271	100	390	0.95
PIPE	B5270	B5274	100	120	0.95
PIPE	B5271	B5272	100	260	0.95
PIPE	B5271	B5280	100	210	0.95
PIPE	B5272	B5273	100	90	0.95
PIPE	B5272	B5280	100	600	0.95
PIPE	B5274	B5275	100	140	0.95
PIPE	B5274	B5277	100	350	0.95
PIPE	B5275	B5276	100	370	0.95
PIPE	B5275	B5280	100	425	0.95
PIPE	B5276	B5277	100	80	0.95
PIPE	B5277	B5278	100	130	0.95
PIPE	B5278	B5279	200	80	0.95
PIPE	B5279	RES750	200	620	0.95
PIPE	B5290	B5291	100	100	0.95
PIPE	B5290	B5298	100	300	0.95
PIPE	B5291	B5292	100	130	0.95
PIPE	B5291	B5293	100	190	0.95
PIPE	B5292	B5293	100	420	0.95
PIPE	B5292	B5294	100	120	0.95



PIPE	B5294	B5295	100	180	0.95
PIPE	B5294	B5297	100	320	0.95
PIPE	B5295	B5296	100	210	0.95
PIPE	B5295	B5301	100	430	0.95
PIPE	B5296	B5297	100	290	0.95
PIPE	B5297	B5299	100	80	0.95
PIPE	B5298	B5299	100	140	0.95
PIPE	B5303	B5304	100	230	0.95
PIPE	B5303	B5306	100	550	0.95
PIPE	B5304	B5305	100	420	0.95
PIPE	B5304	B5307	100	170	0.95
PIPE	B5305	B5306	100	120	0.95
PIPE	B5320	B5332	100	370	0.95
PIPE	B5321	B5322	100	50	0.95
PIPE	B5321	B5323	100	40	0.95
PIPE	B5322	B5328	100	190	0.95
PIPE	B5322	B5331	100	140	0.95
PIPE	B5323	B5324	100	80	0.95
PIPE	B5323	B5326	100	180	0.95
PIPE	B5324	B5325	100	150	0.95
PIPE	B5324	B5327	100	320	0.95
PIPE	B5325	B5326	100	65	1
PIPE	B5328	B5329	100	160	0.95
PIPE	B5328	B5401	100	110	0.95
PIPE	B5329	B5330	100	130	0.95
PIPE	B5329	B5331	100	240	0.95
PIPE	B5330	B5402	100	60	0.95
PIPE	B5331	B5332	100	140	0.95
PIPE	B5332	B5333	100	80	0.95
PIPE	B5334	B5335	100	260	0.95
PIPE	B5335	B5336	100	140	0.95
PIPE	B5336	B6604	100	180	0.95
PIPE	B5401	B5402	150	100	1
PIPE	B5406	B5407	100	120	1
PIPE	B5406	B5410	100	90	0.95
PIPE	B5407	B5408	100	130	0.95
PIPE	B5407	B5411	100	290	0.95
PIPE	B5408	B5409	100	75	0.95

PIPE	B5408	B5412	100	580	0.95
PIPE	B5408	B5414	100	220	0.95
PIPE	B5409	B5410	100	130	0.95
PIPE	B5412	B5413	150	100	1
PIPE	B5413	B5414	100	400	0.95
PIPE	B5901	B5903	100	200	0.95
PIPE	B5902	B5907	100	350	0.95
PIPE	B5903	B5904	100	260	0.95
PIPE	B5904	B5905	100	90	0.95
PIPE	B5904	B5908	100	310	0.95
PIPE	B5905	B5910	100	300	0.95
PIPE	B5906	B5907	100	410	0.95
PIPE	B5907	B5908	100	150	0.95
PIPE	B5908	B5909	100	270	0.95
PIPE	B5909	B5910	100	180	0.95
PIPE	B5910	B5911	100	170	0.95
PIPE	B6101	B6102	100	80	0.95
PIPE	B6102	B6103	100	135	0.95
PIPE	B6104	B6105	100	200	0.95
PIPE	B6104	B6106	100	130	0.95
PIPE	B6201	B6202	100	340	0.95
PIPE	B6202	B6203	100	520	0.95
PIPE	B6203	B6204	100	240	0.95
PIPE	B6203	B6204	100	590	0.95
PIPE	B6601	RES815	400	4550	0.95
PIPE	B6602	B6603	100	530	0.95
PIPE	B6602	B6612	100	210	0.95
PIPE	B6603	B6604	100	60	0.95
PIPE	B6603	B6605	100	170	0.95
PIPE	B6605	B6606	200	110	0.95
PIPE	B6605	B6607	200	110	0.95
PIPE	B6607	B6608	200	110	0.95
PIPE	B6608	B6609	200	100	0.95
PIPE	B6609	B6610	100	140	0.95
PIPE	B6609	B6659	200	110	0.95
PIPE	B6610	B6611	100	260	0.95
PIPE	B6610	B6658	100	150	0.95
PIPE	B6611	B6612	100	70	0.95

PIPE	B6611	B6616	100	100	0.95
PIPE	B6612	B6613	100	150	0.95
PIPE	B6613	B6615	100	150	0.95
PIPE	B66130	B6671	200	140	0.95
PIPE	B6614	B6615	100	180	0.95
PIPE	B6615	B6617	100	160	0.95
PIPE	B6616	B6617	100	185	0.95
PIPE	B6616	B6658	100	160	0.95
PIPE	B6617	B6618	100	70	0.95
PIPE	B6618	B6619	100	90	0.95
PIPE	B6618	B6655	100	160	0.95
PIPE	B6619	B6620	100	170	0.95
PIPE	B6619	B6622	100	190	0.95
PIPE	B6619	B6653	100	190	0.95
PIPE	B6620	B6621	100	170	0.95
PIPE	B6621	B6622	100	180	0.95
PIPE	B6621	B6637	100	120	0.95
PIPE	B6622	B6623	100	80	0.95
PIPE	B6623	B6624	100	70	0.95
PIPE	B6623	B6654	100	190	0.95
PIPE	B6624	B6625	100	100	0.95
PIPE	B6624	B6627	100	100	0.95
PIPE	B6625	B6642	100	90	0.95
PIPE	B6625	B6647	100	120	0.95
PIPE	B6626	B6627	100	230	0.95
PIPE	B6626	B6641	100	150	0.95
PIPE	B6627	B6641	100	320	0.95
PIPE	B6628	B6629	100	150	0.95
PIPE	B6629	B6630	100	120	0.95
PIPE	B6629	B6631	100	250	0.95
PIPE	B6630	B6631	100	250	0.95
PIPE	B6631	B6632	100	50	0.95
PIPE	B6632	B6633	100	50	1
PIPE	B6633	B6635	100	100	0.95
PIPE	B6634	B6635	100	110	0.95
PIPE	B6634	B6636	100	110	0.95
PIPE	B6635	B6636	100	190	0.95
PIPE	B6636	B6639	100	150	0.95

PIPE	B6636	B6640	100	340	0.95
PIPE	B6637	B6638	100	70	1
PIPE	B6638	B6639	100	70	0.95
PIPE	B6642	B6643	100	135	0.95
PIPE	B6643	B6644	100	230	0.95
PIPE	B6643	B6645	100	280	0.95
PIPE	B6644	B6645	200	190	0.95
PIPE	B6644	RES815	300	250	0.95
PIPE	B6645	B6646	200	110	0.95
PIPE	B6646	B6647	100	240	0.95
PIPE	B6646	B6649	200	180	0.95
PIPE	B6647	B6648	100	130	0.95
PIPE	B6648	B6649	100	200	0.95
PIPE	B6648	B6654	100	100	0.95
PIPE	B6649	B6650	200	270	0.95
PIPE	B6650	B6651	200	80	0.95
PIPE	B6651	B6652	100	160	0.95
PIPE	B6651	B6654	100	320	0.95
PIPE	B6651	B6659	200	180	0.95
PIPE	B6652	B6653	100	80	0.95
PIPE	B6652	B6656	100	100	0.95
PIPE	B6653	B6654	100	230	0.95
PIPE	B6655	B6656	100	80	0.95
PIPE	B6655	B6658	100	200	0.95
PIPE	B6656	B6657	100	55	0.95
PIPE	B6657	B6659	100	160	0.95
PIPE	B6660	B6661	100	270	0.95
PIPE	B6661	B6663	100	610	0.95
PIPE	B6662	B6663	200	80	0.95
PIPE	B6662	B6673	100	150	0.95
PIPE	B6663	B6664	200	150	0.95
PIPE	B6664	B6665	100	540	0.95
PIPE	B6664	RES815	200	1750	0.95
PIPE	B6666	B6672	200	330	0.95
PIPE	B6667	B6668	100	330	0.95
PIPE	B6669	B6670	100	270	0.95
PIPE	B6671	B6672	200	250	0.95
PIPE	B6672	B6674	100	250	0.95

PIPE	B6673	B6674	100	250	0.95
PIPE	N3501	N4238	300	280	1
PIPE	N3501	RES635	400	1950	0.95
PIPE	N4219	N4225	300	220	1
PIPE	N4225	N4230	300	270	1
PIPE	N4230	N4238	300	270	1
PIPE	N4401	N4402	300	610	1
PIPE	N5401	RES750	400	3050	0.95
PIPE	N5606	RES750	600	2250	0.95
PIPE	N5701	N5702	300	500	1
PIPE	R750PMP	R815IN	400	1100	0.95
PIPE	3502	N3501	300	10	1
PIPE	3502	3504	300	145	1
PIPE	3502	4242	300	405	1
PIPE	3504	3508	400	530	1
PIPE	3508	3721	400	85	1
PIPE	3601	3603	400	50	1
PIPE	3601	3604	400	130	1
PIPE	3601	3721	400	150	1
PIPE	3603	3611	400	1300	1
PIPE	3604	3605	400	165	1
PIPE	3604	3608	100	130	1
PIPE	3605	3606	400	380	1
PIPE	3605	3612	100	155	1
PIPE	3606	3607	400	50	1
PIPE	3606	3609	100	40	1
PIPE	3607	3730	400	60	1
PIPE	3608	3616	100	150	1
PIPE	3609	3610	100	140	1
PIPE	3610	3613	100	880	1
PIPE	3611	3710	400	840	1
PIPE	3612	3615	100	105	1
PIPE	3612	3616	100	125	1
PIPE	3612	3623	100	210	1
PIPE	3613	3621	100	400	1
PIPE	3613	3736	100	260	1
PIPE	3614	3615	100	85	1
PIPE	3614	3624	100	190	1

PIPE	3615	3620	100	240	1
PIPE	3616	3618	100	80	1
PIPE	3619	3622	100	110	1
PIPE	3620	3623	100	55	1
PIPE	3621	3625	100	340	1
PIPE	3621	3625	100	630	0.95
PIPE	3622	3625	100	200	1
PIPE	3622	3627	100	130	1
PIPE	3622	3629	100	500	0.95
PIPE	3624	3626	100	80	1
PIPE	3624	3629	100	90	1
PIPE	3626	3627	100	70	1
PIPE	3629	3630	100	100	1
PIPE	3701	9015	250	60	1
PIPE	3701	9018	250	210	1
PIPE	3702	3704	150	200	1
PIPE	3702	3717	100	430	1
PIPE	3703	3705	400	110	1
PIPE	3703	3927	600	300	1
PIPE	3703	6208	600	1100	1
PIPE	3704	3714	150	350	1
PIPE	3704	9018	250	180	1
PIPE	3705	3707	400	70	1
PIPE	3706	R6000OUT	400	200	0.95
PIPE	3706	3710	400	130	1
PIPE	3706	4018	400	510	1
PIPE	3707	3727	400	720	1
PIPE	3707	9021	150	70	1
PIPE	3708	3709	200	40	1
PIPE	3708	9025	200	710	1
PIPE	3710	9022	150	50	1
PIPE	3711	3714	150	145	1
PIPE	3711	3715	150	140	1
PIPE	3712	4031	100	180	1
PIPE	3712	4241	300	850	1
PIPE	3712	9017	300	560	1
PIPE	3713	4041	200	110	1
PIPE	3715	3716	150	645	1

PIPE	3716	3718	150	80	1
PIPE	3717	6205	100	150	1
PIPE	3718	3724	150	250	1
PIPE	3719	3720	100	150	1
PIPE	3720	3722	100	100	1
PIPE	3722	3723	100	120	1
PIPE	3723	3728	100	230	1
PIPE	3724	3725	150	220	1
PIPE	3726	3727	400	240	1
PIPE	3726	3730	400	230	1
PIPE	3727	3729	100	350	1
PIPE	3727	3736	200	900	0.95
PIPE	3728	3730	100	20	1
PIPE	3729	3731	100	50	1
PIPE	3731	3732	100	220	1
PIPE	3732	3733	100	90	1
PIPE	3733	3736	100	90	1
PIPE	3734	3736	200	340	0.95
PIPE	3734	3802	100	210	1
PIPE	3734	3804	100	135	1
PIPE	3734	3804	200	135	0.95
PIPE	3735	3801	100	40	1
PIPE	3735	3802	100	40	1
PIPE	3736	3801	100	50	1
PIPE	3801	3803	100	50	1
PIPE	3803	3807	100	230	1
PIPE	3804	B3805	200	425	0.95
PIPE	3804	3806	100	150	1
PIPE	3805	9025	200	390	1
PIPE	3805	9035	200	490	1
PIPE	3806	9034	100	510	1
PIPE	3807	B3801	100	90	0.95
PIPE	3807	B3802	100	170	0.95
PIPE	3901	3902	100	50	1
PIPE	3901	3906	100	170	1
PIPE	3902	3903	100	80	1
PIPE	3903	3904	100	80	1
PIPE	3903	3909	100	160	1

PIPE	3904	3905	100	75	1
PIPE	3905	3907	100	240	1
PIPE	3906	3909	100	110	1
PIPE	3907	3910	100	310	1
PIPE	3907	3918	150	380	1
PIPE	3909	3915	100	140	1
PIPE	3910	3912	100	100	1
PIPE	3910	3916	100	200	1
PIPE	3912	B4105	100	275	0.95
PIPE	3912	4141	100	190	1
PIPE	3914	3917	150	100	1
PIPE	3914	3923	300	100	1
PIPE	3914	6115	300	1470	1
PIPE	3915	3917	100	70	1
PIPE	3915	3930	100	280	1
PIPE	3916	3920	100	85	1
PIPE	3917	6201	150	340	1
PIPE	3918	3922	150	60	1
PIPE	3919	3921	150	100	1
PIPE	3919	3922	150	40	1
PIPE	3920	3925	100	120	1
PIPE	3921	3924	150	50	1
PIPE	3922	6201	150	165	1
PIPE	3923	3926	300	575	1
PIPE	3923	5932	300	850	1
PIPE	3924	3925	150	130	1
PIPE	3925	4011	100	210	1
PIPE	3926	3927	600	120	1
PIPE	3926	9016	600	210	1
PIPE	3927	9014	150	20	1
PIPE	4001	4002	100	30	1
PIPE	4001	4137	100	400	1
PIPE	4002	4003	100	140	1
PIPE	4003	4004	100	200	1
PIPE	4004	4005	100	60	1
PIPE	4005	4214	100	300	1
PIPE	4006	4013	100	300	1
PIPE	4006	4026	250	520	1



PIPE	4006	4136	250	710	1
PIPE	4007	4016	100	240	1
PIPE	4007	4213	100	160	1
PIPE	4008	4010	150	100	1
PIPE	4008	4021	150	345	1
PIPE	4009	4010	150	30	1
PIPE	4009	4017	150	190	1
PIPE	4011	4014	100	120	1
PIPE	4011	4142	100	620	1
PIPE	4012	4013	100	290	1
PIPE	4012	4022	100	200	1
PIPE	4013	4020	100	250	1
PIPE	4013	4024	100	250	1
PIPE	4015	4016	100	60	1
PIPE	4015	4235	100	580	1
PIPE	4016	4017	100	25	1
PIPE	4017	4019	100	80	1
PIPE	4017	4023	150	135	1
PIPE	4018	6114	400	2290	1
PIPE	4020	4031	100	155	1
PIPE	4021	4034	150	200	1
PIPE	4022	4027	100	100	1
PIPE	4023	4033	150	350	1
PIPE	4024	4038	100	280	1
PIPE	4025	4026	150	70	1
PIPE	4025	4038	150	380	1
PIPE	4025	6201	150	460	1
PIPE	4026	4029	250	150	1
PIPE	4026	9017	200	130	1
PIPE	4027	4030	100	60	1
PIPE	4028	4130	600	1250	1
PIPE	4028	9016	600	50	1
PIPE	4028	9017	300	80	1
PIPE	4029	9015	250	250	1
PIPE	4029	9016	250	20	1
PIPE	4030	4032	100	60	1
PIPE	4031	4032	100	70	1
PIPE	4032	4035	100	190	1

PIPE	4033	4037	150	100	1
PIPE	4034	4036	150	130	1
PIPE	4035	4039	100	100	1
PIPE	4036	4039	150	50	1
PIPE	4036	4040	150	280	1
PIPE	4037	4236	150	130	1
PIPE	4038	4041	200	340	1
PIPE	4040	4043	150	110	1
PIPE	4041	4042	200	30	1
PIPE	4043	4044	150	65	1
PIPE	4044	4240	150	50	1
PIPE	4101	5339	150	170	1
PIPE	4102	4103	100	50	1
PIPE	4102	4110	100	420	1
PIPE	4102	5342	100	200	1
PIPE	4103	4104	100	60	1
PIPE	4103	5342	100	420	1
PIPE	4104	4111	100	430	1
PIPE	4104	4112	200	515	1
PIPE	4104	4113	150	465	1
PIPE	4105	4108	100	170	1
PIPE	4105	5339	100	420	1
PIPE	4105	5344	100	140	1
PIPE	4106	4107	150	60	1
PIPE	4106	4109	100	260	1
PIPE	4106	5341	150	250	1
PIPE	4107	4116	150	545	1
PIPE	4107	5336	150	370	1
PIPE	4109	4126	100	425	1
PIPE	4109	5343	150	490	1
PIPE	4110	4113	100	75	1
PIPE	4110	5342	100	455	1
PIPE	4111	4114	100	125	1
PIPE	4112	B4108	200	700	0.95
PIPE	4112	6102	300	1040	1
PIPE	4113	4116	150	50	1
PIPE	4114	4115	100	75	1
PIPE	4114	4123	100	200	1

PIPE	4116	4117	100	190	1	
PIPE	4117	4119	100	60	1	
PIPE	4117	4120	100	190	1	
PIPE	4118	4119	100	150	1	
PIPE	4118	4122	100	185	1	
PIPE	4120	4124	100	120	1	
PIPE	4121	6110	150	300	1	
PIPE	4121	6119	150	30	1	
PIPE	4122	4123	100	260	1	
PIPE	4122	4125	100	60	1	
PIPE	4124	4125	100	310	1	
PIPE	4126	B6106	100	85	0.95	
PIPE	4126	4127	100	215	1	
PIPE	4128	4129	150	300	1	
PIPE	4129	B4119	100	50	0.95	
PIPE	4130	AWJAN	600	20	1	
PIPE	4130	4134	100	20	1	
PIPE	4131	4132	100	70	1	
PIPE	4131	4139	100	240	1	
PIPE	4132	4133	100	30	1	
PIPE	4132	4136	100	20	1	
PIPE	4133	AWAGAN		100	40	1
PIPE	4133	4134	100	40	1	
PIPE	4133	4138	100	170	1	
PIPE	4134	4135	100	30	1	
PIPE	4134	4137	100	200	1	
PIPE	4134	4140	150	270	1	
PIPE	4135	AWAGAN		300	60	1
PIPE	4135	B4444	300	470	1	
PIPE	4136	AWAGAN		250	30	1
PIPE	4139	4141	100	50	1	
PIPE	4140	4143	150	350	1	
PIPE	4143	4205	150	340	1	
PIPE	4201	B4205	100	80	0.95	
PIPE	4201	4203	150	80	1	
PIPE	4201	4204	150	290	1	
PIPE	4202	4203	150	185	1	
PIPE	4202	4205	150	150	1	

PIPE	4203	B4203	100	290	0.95
PIPE	4204	B4207	100	150	0.95
PIPE	4204	4208	150	180	1
PIPE	4205	B4201	100	70	0.95
PIPE	4206	B4208	150	340	1
PIPE	4206	4211	100	130	1
PIPE	4207	4211	100	190	1
PIPE	4207	4215	100	280	1
PIPE	4208	B4208	150	140	1
PIPE	4208	4215	100	260	0.95
PIPE	4211	4219	100	320	1
PIPE	4213	4224	100	190	1
PIPE	4215	B4203	100	450	0.95
PIPE	4215	4218	100	120	1
PIPE	4218	4221	100	310	1
PIPE	4218	4225	100	290	1
PIPE	4221	B4204	100	150	0.95
PIPE	4221	4228	100	390	1
PIPE	4221	4229	100	300	1
PIPE	4223	4224	100	280	1
PIPE	4223	4227	100	130	1
PIPE	4224	4226	100	180	1
PIPE	4226	4232	100	310	1
PIPE	4227	4229	100	230	1
PIPE	4228	4230	100	50	1
PIPE	4229	4231	100	125	1
PIPE	4229	4233	100	130	1
PIPE	4231	4232	100	85	1
PIPE	4231	4234	100	115	1
PIPE	4232	4235	100	280	1
PIPE	4233	4234	100	50	1
PIPE	4235	4237	100	30	1
PIPE	4236	4237	150	20	1
PIPE	4237	4239	150	240	1
PIPE	4239	4240	150	50	1
PIPE	4240	4241	150	50	1
PIPE	4241	4242	300	350	1
PIPE	4242	4243	300	50	1

PIPE	4305	B4356	100	380	0.95
PIPE	4305	B4505	100	440	0.95
PIPE	4305	4307	100	290	1
PIPE	4305	4309	100	175	1
PIPE	4305	4405	100	210	1
PIPE	4307	4308	100	45	1
PIPE	4307	4315	100	340	1
PIPE	4308	B4354	100	150	1
PIPE	4308	4314	100	375	1
PIPE	4309	B4356	100	200	0.95
PIPE	4309	4311	100	100	1
PIPE	4309	4316	100	270	1
PIPE	4310	B4354	100	90	1
PIPE	4310	B4358	100	270	0.95
PIPE	4311	B4504	100	250	0.95
PIPE	4311	4312	100	120	1
PIPE	4312	4313	100	180	1
PIPE	4313	4321	100	250	1
PIPE	4315	B4357	100	130	1
PIPE	4316	4317	100	190	1
PIPE	4317	4320	100	100	1
PIPE	4318	B4504	150	330	1
PIPE	4318	4322	150	80	1
PIPE	4318	4514	100	280	0.95
PIPE	4319	4323	100	180	1
PIPE	4320	B4357	100	390	1
PIPE	4320	4326	100	110	1
PIPE	4321	4327	100	150	1
PIPE	4322	4519	150	110	1
PIPE	4323	B4341	100	200	0.95
PIPE	4323	B4343	100	180	0.95
PIPE	4323	B4347	100	430	0.95
PIPE	4323	B4351	100	200	0.95
PIPE	4323	4324	100	50	1
PIPE	4324	4325	100	50	1
PIPE	4325	4328	100	200	1
PIPE	4325	4329	100	150	1
PIPE	4326	B4355	100	80	0.95

PIPE	4326	4327	300	130	1
PIPE	4326	4330	300	370	1
PIPE	4327	4520	300	120	1
PIPE	4328	B4351	100	100	0.95
PIPE	4328	4330	100	180	1
PIPE	4329	4334	100	200	1
PIPE	4330	4334	300	110	1
PIPE	4331	B4342	100	170	1
PIPE	4331	4333	100	25	1
PIPE	4332	4333	100	20	1
PIPE	4332	4390	100	450	1
PIPE	4334	4338	300	210	1
PIPE	4335	4336	100	220	1
PIPE	4335	4337	100	80	1
PIPE	4336	4340	100	130	1
PIPE	4337	B4342	100	30	1
PIPE	4338	N4219	300	290	1
PIPE	4339	B4341	100	200	0.95
PIPE	4339	B4344	200	300	0.95
PIPE	4339	4340	100	150	1
PIPE	4339	4340	200	150	0.95
PIPE	4340	N4219	200	300	0.95
PIPE	4401	B4420	100	100	1
PIPE	4402	4404	100	510	1
PIPE	4403	B4416	100	160	0.95
PIPE	4403	B4420	100	330	1
PIPE	4403	4407	100	350	1
PIPE	4404	B4505	150	140	1
PIPE	4404	4405	100	220	1
PIPE	4404	4406	100	50	1
PIPE	4406	4509	100	150	1
PIPE	4407	B4415	100	120	0.95
PIPE	4407	B4422	100	170	0.95
PIPE	4407	N4401	100	120	1
PIPE	4501	4503	100	180	1
PIPE	4501	4504	100	180	1
PIPE	4501	4505	100	240	1
PIPE	4502	4503	100	230	1

PIPE	4502	4506	100	220	1
PIPE	4505	B4509	100	200	1
PIPE	4505	4508	100	380	0.95
PIPE	4506	B4524	100	200	0.95
PIPE	4506	4507	100	130	1
PIPE	4507	4508	100	70	1
PIPE	4508	4510	100	230	1
PIPE	4508	4513	100	510	1
PIPE	4509	B4509	100	90	1
PIPE	4509	4511	100	180	1
PIPE	4510	B4508	100	180	1
PIPE	4510	B4510	100	240	0.95
PIPE	4511	B4506	100	160	1
PIPE	4512	B4508	100	160	1
PIPE	4512	B4511	100	400	0.95
PIPE	4512	4514	100	220	0.95
PIPE	4512	4515	100	160	1
PIPE	4513	B4514	100	60	0.95
PIPE	4513	B4516	100	140	0.95
PIPE	4514	B4506	100	240	1
PIPE	4514	4516	100	270	1
PIPE	4515	B4512	100	450	0.95
PIPE	4515	4516	100	50	1
PIPE	4516	4517	100	80	1
PIPE	4517	B4503	100	120	0.95
PIPE	4517	4518	100	90	1
PIPE	4518	B4502	200	130	0.95
PIPE	4518	4519	300	220	1
PIPE	4519	4520	300	50	1
PIPE	4520	B4501	100	50	0.95
PIPE	5301	B6606	200	50	0.95
PIPE	5301	5302	100	125	1
PIPE	5301	5309	100	380	1
PIPE	5301	5309	200	380	0.9
PIPE	5302	B6604	100	40	0.95
PIPE	5302	5305	100	220	1
PIPE	5303	5304	100	160	1
PIPE	5303	5401	100	300	1

PIPE	5304	B5325	100	100	1
PIPE	5304	B5336	100	470	0.95
PIPE	5304	B6602	100	130	0.95
PIPE	5305	5315	100	400	1
PIPE	5306	5308	100	110	1
PIPE	5306	5309	100	300	1
PIPE	5307	B5320	100	100	1
PIPE	5307	B5326	100	80	1
PIPE	5307	B5334	100	130	1
PIPE	5307	5316	100	230	1
PIPE	5308	5311	100	170	1
PIPE	5309	B5301	100	200	0.95
PIPE	5309	B5302	100	220	0.95
PIPE	5310	B5320	100	60	1
PIPE	5310	B5321	100	50	1
PIPE	5310	5313	100	55	1
PIPE	5311	5314	100	180	1
PIPE	5314	B5302	100	130	0.95
PIPE	5314	5318	100	320	1
PIPE	5315	5316	100	100	1
PIPE	5316	5317	100	120	1
PIPE	5317	B5333	100	130	1
PIPE	5317	5320	100	60	1
PIPE	5318	B5305	100	200	0.95
PIPE	5318	5320	100	340	1
PIPE	5320	5321	100	55	1
PIPE	5321	B5304	100	90	0.95
PIPE	5322	B5306	100	250	0.95
PIPE	5322	5323	100	340	1
PIPE	5323	B5303	100	90	0.95
PIPE	5323	5324	100	30	1
PIPE	5324	5615	100	260	1
PIPE	5325	R750IN	400	2650	0.9
PIPE	5325	5326	400	105	1
PIPE	5326	N6102	400	550	1
PIPE	5327	5331	100	150	1
PIPE	5328	5329	150	155	1
PIPE	5328	5330	150	130	1



PIPE	5329	5333	150	145	1
PIPE	5330	N5606	600	770	0.95
PIPE	5330	N5701	300	990	1
PIPE	5330	5337	300	235	1
PIPE	5331	5332	100	120	1
PIPE	5331	5736	100	160	1
PIPE	5332	5335	200	110	1
PIPE	5332	5615	200	630	1
PIPE	5333	5336	150	100	1
PIPE	5334	5343	150	230	1
PIPE	5335	5338	150	50	1
PIPE	5335	6103	200	230	1
PIPE	5337	5338	150	30	1
PIPE	5337	6102	300	50	0.95
PIPE	5337	6113	300	750	1
PIPE	5338	5343	150	190	1
PIPE	5339	5341	150	130	1
PIPE	5340	5341	100	165	1
PIPE	5340	5344	100	110	1
PIPE	5401	B5327	150	150	1
PIPE	5401	5402	100	90	1
PIPE	5401	66215	150	220	1
PIPE	5402	B5405	100	340	0.95
PIPE	5402	5405	100	90	1
PIPE	5403	5414	600	310	1
PIPE	5403	66210	600	670	1
PIPE	5404	WPHOS	150	50	1
PIPE	5404	5415	400	450	1
PIPE	5404	66216	400	250	1
PIPE	5405	B5410	100	250	0.95
PIPE	5405	5406	100	90	1
PIPE	5406	B5405	100	150	0.95
PIPE	5406	5407	100	130	1
PIPE	5407	B5406	100	100	0.95
PIPE	5407	5408	100	130	1
PIPE	5408	5411	100	100	1
PIPE	5409	5410	100	10	1
PIPE	5409	5602	100	260	1

PIPE	5410	B5323	100	370	0.95
PIPE	5410	B5327	150	70	1
PIPE	5410	B5401	150	110	1
PIPE	5411	5412	100	50	1
PIPE	5412	B5411	100	220	1
PIPE	5413	BALOUT	150	60	1
PIPE	5413	5424	150	420	1
PIPE	5414	5435	600	420	1
PIPE	5415	BALBIN	200	55	1
PIPE	5415	5420	400	165	1
PIPE	5416	5419	150	60	1
PIPE	5416	5515	150	260	1
PIPE	5417	5418	300	20	1
PIPE	5417	5432	300	270	1
PIPE	5418	5532	300	65	1
PIPE	5420	WELALB	150	30	1
PIPE	5420	5430	400	200	1
PIPE	5421	5422	100	30	1
PIPE	5421	5532	300	40	1
PIPE	5421	5828	300	830	1
PIPE	5422	5425	100	100	1
PIPE	5423	5427	150	160	1
PIPE	5423	5543	150	190	1
PIPE	5424	5433	150	230	1
PIPE	5425	5429	100	115	1
PIPE	5426	5427	150	210	1
PIPE	5426	5428	150	50	1
PIPE	5428	5433	150	135	1
PIPE	5429	5436	100	70	1
PIPE	5430	5705	400	560	1
PIPE	5431	5437	100	110	1
PIPE	5431	5537	100	230	1
PIPE	5431	5556	100	70	1
PIPE	5432	5709	300	835	1
PIPE	5433	5434	150	50	1
PIPE	5434	B5411	100	400	1
PIPE	5434	B5412	150	120	1
PIPE	5435	5704	600	600	1

PIPE	5437	5439	100	110	1
PIPE	5437	5803	100	60	1
PIPE	5438	5440	100	70	1
PIPE	5438	5613	100	280	1
PIPE	5439	5807	100	50	1
PIPE	5439	5809	100	60	1
PIPE	5440	5441	100	70	1
PIPE	5440	5614	100	210	1
PIPE	5441	5442	100	115	1
PIPE	5442	5443	150	105	1
PIPE	5442	5616	150	270	1
PIPE	5443	5702	100	110	1
PIPE	5443	5703	150	90	1
PIPE	5501	5503	100	70	1
PIPE	5501	66182	100	155	1
PIPE	5501	66190	100	80	1
PIPE	5502	5504	100	45	1
PIPE	5502	66189	100	100	1
PIPE	5502	66198	100	25	1
PIPE	5503	5506	100	100	1
PIPE	5503	66194	100	85	1
PIPE	5504	5509	100	250	1
PIPE	5504	66191	100	150	1
PIPE	5505	5506	100	35	1
PIPE	5505	66199	100	85	1
PIPE	5507	5508	100	85	1
PIPE	5507	66198	100	210	1
PIPE	5509	5510	150	25	1
PIPE	5510	5511	200	50	0.95
PIPE	5510	5512	150	275	1
PIPE	5510	66179	150	510	1
PIPE	5510	66182	200	450	0.95
PIPE	5511	5513	150	245	1
PIPE	5511	5514	200	600	0.95
PIPE	5511	66196	150	425	1
PIPE	5512	5701	150	335	1
PIPE	5513	5514	150	345	1
PIPE	5514	5516	150	290	1

PIPE	5514	5551	300	650	0.95
PIPE	5514	5701	200	10	0.95
PIPE	5515	5701	150	285	1
PIPE	5516	5532	150	180	1
PIPE	5517	5527	100	130	1
PIPE	5517	5542	100	240	1
PIPE	5518	5523	100	60	1
PIPE	5518	5524	100	120	1
PIPE	5519	5520	100	40	1
PIPE	5519	5522	100	45	1
PIPE	5520	5526	100	75	1
PIPE	5521	5522	100	25	1
PIPE	5521	5530	100	20	1
PIPE	5522	5525	100	30	1
PIPE	5523	5527	100	60	1
PIPE	5523	5529	100	130	1
PIPE	5524	5529	100	40	1
PIPE	5525	5526	100	50	1
PIPE	5525	5533	100	50	1
PIPE	5526	5528	100	85	1
PIPE	5527	5531	100	90	1
PIPE	5527	5534	100	50	1
PIPE	5528	5537	100	90	1
PIPE	5529	5530	100	55	1
PIPE	5529	5535	100	30	1
PIPE	5530	5536	100	30	1
PIPE	5531	5535	100	70	1
PIPE	5531	5538	100	60	1
PIPE	5533	5537	100	150	1
PIPE	5533	5540	100	60	1
PIPE	5534	5544	100	105	1
PIPE	5535	5536	100	70	1
PIPE	5535	5539	100	60	1
PIPE	5536	5541	100	60	1
PIPE	5538	5539	100	60	1
PIPE	5539	5541	100	65	1
PIPE	5539	5548	100	90	1
PIPE	5540	5543	100	120	1

PIPE	5540	5547	100	75	1
PIPE	5541	5545	100	65	1
PIPE	5542	5544	100	70	1
PIPE	5543	5549	150	75	1
PIPE	5544	5546	100	75	1
PIPE	5545	5550	100	110	1
PIPE	5546	5548	100	60	1
PIPE	5546	5552	100	70	1
PIPE	5547	5549	100	90	1
PIPE	5547	5553	100	60	1
PIPE	5548	5550	100	50	1
PIPE	5549	5556	150	75	1
PIPE	5550	5551	300	50	0.95
PIPE	5550	5555	100	90	1
PIPE	5551	N5401	400	750	0.95
PIPE	5551	5553	150	40	1
PIPE	5551	5558	100	150	1
PIPE	5551	5560	150	100	1
PIPE	5551	5815	100	630	1
PIPE	5552	5555	100	115	1
PIPE	5552	5557	100	50	1
PIPE	5553	5556	150	90	1
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PIPE	5554	5557	100	95	1
PIPE	5554	5562	100	60	1
PIPE	5555	5561	100	40	1
PIPE	5556	5801	150	55	1
PIPE	5557	5561	100	95	1
PIPE	5557	5563	100	70	1
PIPE	5558	5559	100	110	1
PIPE	5558	5570	100	240	1
PIPE	5559	5560	100	5	1
PIPE	5559	5802	100	50	1
PIPE	5560	5817	150	455	1
PIPE	5561	5566	100	110	1
PIPE	5562	5563	100	80	1
PIPE	5562	5564	100	100	1
PIPE	5563	5565	100	60	1

PIPE	5563	5566	100	100	1
PIPE	5564	5565	100	90	1
PIPE	5564	5569	100	75	1
PIPE	5565	5567	100	70	1
PIPE	5566	5568	100	70	1
PIPE	5567	5568	100	70	1
PIPE	5567	5569	100	95	1
PIPE	5567	5571	100	60	1
PIPE	5568	5573	100	100	1
PIPE	5569	5572	100	55	1
PIPE	5570	5808	100	100	1
PIPE	5570	5821	100	280	1
PIPE	5571	5572	100	100	1
PIPE	5571	5574	100	50	1
PIPE	5572	5575	100	55	1
PIPE	5573	5574	100	50	1
PIPE	5573	5815	100	95	1
PIPE	5574	5576	100	40	1
PIPE	5575	5576	100	55	1
PIPE	5575	5814	100	85	1
PIPE	5576	5816	100	100	1
PIPE	5601	B6633	100	100	1
PIPE	5601	66164	150	210	1
PIPE	5601	66215	150	490	1
PIPE	5602	5606	100	280	1
PIPE	5603	B5333	100	200	1
PIPE	5603	B5402	150	150	1
PIPE	5603	5605	150	110	1
PIPE	5604	5608	200	100	1
PIPE	5604	5613	200	350	1
PIPE	5605	5606	150	5	1
PIPE	5606	N5606	460	40	0.95
PIPE	5606	5607	200	160	1
PIPE	5606	5615	200	300	1
PIPE	5607	5610	200	65	1
PIPE	5608	5610	200	130	1
PIPE	5609	5610	150	30	1
PIPE	5609	5612	150	230	1

PIPE	5611	B5413	150	100	1
PIPE	5611	5612	150	160	1
PIPE	5611	5733	100	750	1
PIPE	5613	5614	200	60	1
PIPE	5614	5616	200	80	1
PIPE	5614	5617	100	265	1
PIPE	5616	5621	200	130	1
PIPE	5617	5618	100	60	1
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PIPE	5619	5624	100	70	1
PIPE	5620	5623	100	70	1
PIPE	5620	5702	100	455	1
PIPE	5621	5708	100	185	1
PIPE	5621	5724	200	250	1
PIPE	5622	5623	100	50	1
PIPE	5622	5626	100	55	1
PIPE	5624	5710	100	190	1
PIPE	5624	5716	100	200	1
PIPE	5625	5626	100	110	1
PIPE	5625	5723	100	90	1
PIPE	5626	5721	100	110	1
PIPE	5702	5706	100	60	1
PIPE	5703	5707	100	45	1
PIPE	5703	5718	150	160	1
PIPE	5705	BRUS4IN	300	50	1
PIPE	5706	5707	100	160	1
PIPE	5706	5708	100	80	1
PIPE	5707	5717	100	100	1
PIPE	5708	5710	100	45	1
PIPE	5709	BRU4OUT	300	100	1
PIPE	5709	5719	300	60	1
PIPE	5710	5714	100	250	1
PIPE	5711	5828	100	50	1
PIPE	5712	BRU4OUT	600	100	1
PIPE	5712	5726	600	145	1
PIPE	5713	5714	100	50	1
PIPE	5713	5715	100	100	1
PIPE	5713	5730	100	150	1

PIPE	5714	5717	100	45	1
PIPE	5715	5716	100	100	1
PIPE	5715	5729	100	125	1
PIPE	5716	5724	100	90	1
PIPE	5717	5718	100	80	1
PIPE	5717	5722	100	65	1
PIPE	5718	5719	150	190	1
PIPE	5718	5720	100	40	1
PIPE	5719	5726	300	160	1
PIPE	5720	5722	100	100	1
PIPE	5720	5725	100	80	1
PIPE	5720	5735	100	170	1
PIPE	5722	5728	100	40	1
PIPE	5723	5727	100	100	1
PIPE	5724	N5701	300	10	0.95
PIPE	5724	5731	100	100	1
PIPE	5724	5737	200	220	1
PIPE	5725	5728	100	100	1
PIPE	5725	5732	100	200	1
PIPE	5726	5836	600	80	1
PIPE	5727	5731	100	60	1
PIPE	5728	5732	100	60	1
PIPE	5729	5730	100	80	1
PIPE	5729	5734	100	180	1
PIPE	5730	5732	100	40	1
PIPE	5731	5736	100	410	1
PIPE	5731	5750	100	630	1
PIPE	5734	5735	100	125	1
PIPE	5734	5737	100	120	1
PIPE	5735	5739	100	70	1
PIPE	5736	5742	100	200	1
PIPE	5737	5756	200	600	1
PIPE	5738	5739	100	140	1
PIPE	5738	5741	100	80	1
PIPE	5739	5743	100	115	1
PIPE	5740	5742	100	135	1
PIPE	5741	5743	100	115	1
PIPE	5741	5747	100	150	1



PIPE	5742	5746	100	130	1
PIPE	5743	5748	100	170	1
PIPE	5744	5745	100	175	1
PIPE	5744	5749	100	125	1
PIPE	5745	5746	100	75	1
PIPE	5745	5751	100	75	1
PIPE	5746	6103	100	150	1
PIPE	5747	5748	100	105	1
PIPE	5747	5752	100	65	1
PIPE	5748	5754	100	65	1
PIPE	5749	5751	100	75	1
PIPE	5749	6001	100	70	1
PIPE	5750	5752	100	40	1
PIPE	5750	5756	100	220	1
PIPE	5751	5755	100	85	1
PIPE	5751	6104	100	210	1
PIPE	5752	5754	100	110	1
PIPE	5752	5756	100	160	1
PIPE	5753	6001	100	75	1
PIPE	5753	6004	100	150	1
PIPE	5754	5756	100	50	1
PIPE	5755	5757	100	30	1
PIPE	5755	6003	100	175	1
PIPE	5756	6008	100	270	1
PIPE	5802	5803	100	70	1
PIPE	5802	5804	100	80	1
PIPE	5803	5805	100	55	1
PIPE	5804	5805	100	70	1
PIPE	5804	5806	100	55	1
PIPE	5805	5807	100	70	1
PIPE	5806	5807	100	70	1
PIPE	5806	5808	100	60	1
PIPE	5808	5809	100	110	1
PIPE	5808	5810	100	60	1
PIPE	5809	5811	100	50	1
PIPE	5810	5811	100	115	1
PIPE	5810	5812	100	65	1
PIPE	5811	5813	100	65	1

PIPE	5812	5813	100	115	1
PIPE	5812	5818	100	120	1
PIPE	5814	5816	100	65	1
PIPE	5814	5826	100	180	1
PIPE	5815	5816	100	75	1
PIPE	5815	5822	100	100	1
PIPE	5816	5819	100	100	1
PIPE	5817	5818	100	5	1
PIPE	5817	5834	150	170	1
PIPE	5818	5821	100	20	1
PIPE	5819	5820	100	25	1
PIPE	5820	5822	100	30	1
PIPE	5820	5824	100	30	1
PIPE	5821	5823	100	80	1
PIPE	5821	5825	100	20	1
PIPE	5821	5827	100	90	1
PIPE	5822	5825	100	60	1
PIPE	5823	5827	100	50	1
PIPE	5824	5826	100	110	1
PIPE	5825	5833	100	140	1
PIPE	5826	5830	100	30	1
PIPE	5827	5829	100	25	1
PIPE	5828	5829	100	130	1
PIPE	5828	5836	300	240	1
PIPE	5829	5832	100	40	1
PIPE	5830	5831	100	5	1
PIPE	5830	5835	100	175	1
PIPE	5832	5835	100	130	1
PIPE	5832	5843	100	550	1
PIPE	5833	5839	100	350	1
PIPE	5834	5838	150	170	1
PIPE	5835	5837	100	170	1
PIPE	5836	5916	300	880	1
PIPE	5837	5838	100	45	1
PIPE	5838	5846	150	375	1
PIPE	5839	5841	100	50	1
PIPE	5840	5841	100	80	1
PIPE	5840	5842	100	310	1

PIPE	5841	5844	100	300	1
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PIPE	5843	5844	100	85	1
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PIPE	5845	5846	100	5	1
PIPE	5845	5847	100	55	1
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PIPE	5848	5910	100	200	1
PIPE	5849	5850	150	225	1
PIPE	5850	5906	150	260	1
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PIPE	5853	5854	100	150	1
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PIPE	5902	5911	100	400	1
PIPE	5903	5904	100	185	1
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PIPE	5908	5911	100	50	1
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PIPE	5911	5912	100	110	1
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PIPE	5913	5914	100	110	1
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PIPE	5915	5919	150	250	1
PIPE	5915	5921	100	165	1
PIPE	5916	5917	150	170	1
PIPE	5916	5932	300	1280	1
PIPE	5917	5918	150	65	1
PIPE	5917	5919	150	85	1
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PIPE	5922	5923	100	140	1
PIPE	5923	5924	100	60	1
PIPE	5924	5927	100	180	1
PIPE	5925	B5901	100	470	0.95
PIPE	5925	5926	100	70	1
PIPE	5925	5928	100	260	1
PIPE	5926	5929	100	50	1
PIPE	5927	5928	100	45	1
PIPE	5928	5931	100	130	1
PIPE	5929	5930	100	145	1
PIPE	5930	B5903	100	350	0.95
PIPE	5931	B5901	100	280	0.95
PIPE	5931	B5902	100	90	0.95
PIPE	5932	6066	100	40	1
PIPE	6001	6002	100	75	1
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PIPE	6010	6015	100	120	1
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PIPE	6011	6013	100	115	1
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PIPE	6012	6115	200	70	1
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PIPE	6013	6018	100	70	1
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PIPE	6040	6052	200	195	1
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PIPE	6063	6068	100	130	1
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PIPE	6067	6068	100	60	1
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PIPE	6101	66141	600	825	1
PIPE	6103	6104	200	50	1
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PIPE	6106	6107	100	160	1
PIPE	6106	6108	100	120	1
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PIPE	6120	6121	100	100	1
PIPE	6121	6124	100	75	1
PIPE	6122	B6106	100	140	0.95
PIPE	6123	6124	100	280	1
PIPE	6123	6125	100	95	1
PIPE	6124	B6104	100	400	0.95
PIPE	6124	6126	100	115	1
PIPE	6125	6126	100	210	1
PIPE	6125	6130	100	155	1
PIPE	6126	6127	100	95	1
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PIPE	6128	6131	100	50	1
PIPE	6129	6130	100	115	1
PIPE	6129	6133	100	90	1
PIPE	6130	6134	100	85	1
PIPE	6131	6132	100	200	1

PIPE	6132	B6103	100	115	0.95
PIPE	6133	6134	100	125	1
PIPE	6133	6135	100	85	1
PIPE	6134	6137	100	105	1
PIPE	6135	6136	100	45	1
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PIPE	6136	6138	100	60	1
PIPE	6138	B6101	100	320	0.95
PIPE	6138	6139	100	105	0.95
PIPE	6139	B4101	100	400	0.95
PIPE	6202	B6204	100	400	0.95
PIPE	6202	6203	100	330	1
PIPE	6203	B6201	100	210	1
PIPE	6203	B6203	100	690	0.95
PIPE	6204	6207	100	130	1
PIPE	6204	6209	100	160	1
PIPE	6205	B6201	100	170	1
PIPE	6205	6206	100	20	1
PIPE	6206	6207	100	40	1
PIPE	6601	6602	100	80	1
PIPE	6602	6610	100	250	1
PIPE	6603	B66130	100	220	0.95
PIPE	6603	6606	100	60	1
PIPE	6603	6608	100	90	1
PIPE	6604	6605	100	150	1
PIPE	6604	6609	100	100	1
PIPE	6605	B6667	100	470	0.95
PIPE	6605	6619	100	335	1
PIPE	6606	6613	100	300	1
PIPE	6607	6701	100	205	1
PIPE	6608	6609	100	100	1
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PIPE	66100	66102	100	40	1
PIPE	66100	66110	100	55	1
PIPE	66100	6692	100	75	1
PIPE	66100	6698	100	60	1
PIPE	66101	6696	100	55	1
PIPE	66102	66103	100	55	1



PIPE	66102	66152	100	255	1
PIPE	66103	66142	100	195	1
PIPE	66104	66113	100	250	1
PIPE	66104	6686	100	200	1
PIPE	66105	66106	100	40	1
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PIPE	66106	66118	100	105	1
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PIPE	66109	66119	100	80	1
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PIPE	66111	66121	150	250	1
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PIPE	66119	66124	100	45	1
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PIPE	6612	6701	100	520	1
PIPE	66120	B6640	100	120	1
PIPE	66120	66164	150	190	1
PIPE	66122	66134	150	80	1
PIPE	66123	B6626	100	50	0.95
PIPE	66123	B6638	100	50	1
PIPE	66123	B6640	100	290	1
PIPE	66124	66132	100	45	1
PIPE	66125	66129	100	40	1
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PIPE	66133	6676	100	335	1
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PIPE	66135	66137	100	110	1
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PIPE	6614	6623	100	170	1
PIPE	66141	66173	600	185	1

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PIPE	66143	66154	100	40	1
PIPE	66144	66146	100	65	1
PIPE	66144	66179	150	240	1
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PIPE	66145	66158	100	40	1
PIPE	66146	66165	100	150	1
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PIPE	66149	66151	150	110	1
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PIPE	66150	66192	150	280	1
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PIPE	66158	66161	100	80	1
PIPE	66158	66163	100	25	1
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PIPE	66164	66166	100	85	1
PIPE	66165	66169	100	55	1
PIPE	66165	66181	100	200	1
PIPE	66166	66177	100	125	1
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PIPE	66178	66180	100	50	1
PIPE	66178	66181	100	30	1
PIPE	66179	66191	100	115	1
PIPE	6618	B6669	100	210	0.95
PIPE	6618	6619	100	150	1
PIPE	66180	66182	100	35	1
PIPE	66180	66190	100	145	1
PIPE	66181	66187	100	60	1
PIPE	66182	66195	100	95	1
PIPE	66182	66205	200	700	0.95
PIPE	66183	66185	100	85	1
PIPE	66183	66190	100	45	1
PIPE	66185	66194	100	80	1
PIPE	66186	B6634	100	70	0.95
PIPE	66186	66188	100	75	1
PIPE	66186	66193	100	80	1
PIPE	66187	66189	100	80	1
PIPE	66187	66195	100	80	1
PIPE	66188	B6614	100	140	1
PIPE	66188	B6620	100	150	0.95
PIPE	66189	66191	100	60	1
PIPE	6619	B6667	100	210	0.95

PIPE	6619	6627	100	190	1
PIPE	66190	66194	100	85	1
PIPE	66192	66196	150	25	1
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PIPE	6621	6705	200	60	1
PIPE	66212	RES18	150	50	1
PIPE	66212	66214	150	50	1
PIPE	66213	B6613	100	140	0.95
PIPE	66213	B6614	100	290	1
PIPE	66213	B6628	100	100	1
PIPE	66214	66216	400	200	1
PIPE	66215	B6628	100	230	1
PIPE	6622	6626	100	220	1
PIPE	6623	7007	200	260	1
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PIPE	6624	6707	150	100	1
PIPE	6625	B6662	200	100	0.95
PIPE	6625	B6666	200	140	0.95
PIPE	6625	6629	100	425	1
PIPE	6626	6630	100	315	1

PIPE	6627	B6668	100	220	0.95
PIPE	6627	B6669	100	110	0.95
PIPE	6627	6628	100	235	1
PIPE	6628	B6670	100	70	1
PIPE	6629	B6661	100	210	0.95
PIPE	6629	6636	100	335	1
PIPE	6630	B6670	100	220	1
PIPE	6630	6631	100	35	1
PIPE	6631	6632	100	25	1
PIPE	6631	6642	100	360	1
PIPE	6632	6634	150	200	1
PIPE	6633	B6601	400	10	0.95
PIPE	6633	6641	150	75	1
PIPE	6633	6653	100	270	1
PIPE	6633	6711	300	730	0.95
PIPE	6633	6717	200	350	1
PIPE	6634	6639	150	135	1
PIPE	6635	6648	100	115	1
PIPE	6635	6657	100	280	1
PIPE	6636	B6660	100	180	0.95
PIPE	6636	6638	100	100	1
PIPE	6637	6645	100	370	1
PIPE	6637	6650	100	140	1
PIPE	6638	6639	100	25	1
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PIPE	6651	6664	150	85	1
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PIPE	6652	6661	100	70	1
PIPE	6653	6669	100	150	1
PIPE	6654	6663	150	90	1
PIPE	6655	6662	100	70	1
PIPE	6655	6677	100	165	1
PIPE	6656	6674	150	140	1
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PIPE	6658	6659	100	85	1
PIPE	6658	6661	100	80	1
PIPE	6658	6666	100	30	1
PIPE	6659	6660	100	75	1
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PIPE	6662	6679	100	150	1
PIPE	6663	6673	150	85	1
PIPE	6664	6732	150	90	1
PIPE	6664	7008	150	150	1
PIPE	6667	6668	100	70	1
PIPE	6667	6689	100	115	1
PIPE	6669	6681	100	50	1
PIPE	6670	6672	150	150	1
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PIPE	6671	6688	100	90	1
PIPE	6672	6683	150	60	1
PIPE	6674	6676	100	85	1
PIPE	6675	6682	150	140	1
PIPE	6676	6680	100	170	1
PIPE	6677	6678	100	20	1
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PIPE	6678	6681	100	90	1
PIPE	6678	6690	100	65	1
PIPE	6679	6680	100	25	1
PIPE	6680	6692	100	55	1
PIPE	6681	6691	100	55	1
PIPE	6683	6684	150	50	1

PIPE	6685	6689	100	75	1
PIPE	6685	6693	100	15	1
PIPE	6685	6694	100	60	1
PIPE	6686	B6641	100	80	0.95
PIPE	6687	6688	100	25	1
PIPE	6688	6696	100	300	1
PIPE	6689	6691	100	80	1
PIPE	6689	6697	100	60	1
PIPE	6690	6691	100	85	1
PIPE	6690	6692	100	70	1
PIPE	6690	6698	100	70	1
PIPE	6691	6699	100	75	1
PIPE	6694	6695	100	150	1
PIPE	6694	6697	100	85	1
PIPE	6697	6699	100	75	1
PIPE	6698	6699	100	75	1
PIPE	6701	6702	100	230	1
PIPE	6702	6704	100	225	1
PIPE	6702	6705	100	90	1
PIPE	6703	6704	100	80	1
PIPE	6703	6706	100	90	1
PIPE	6704	6708	100	50	1
PIPE	6705	6708	200	225	1
PIPE	6706	6710	100	120	1
PIPE	6707	6709	150	100	1
PIPE	6708	6710	200	80	1
PIPE	6709	6711	150	90	1
PIPE	6709	6712	100	100	1
PIPE	6710	6711	100	30	1
PIPE	6710	6717	200	330	1
PIPE	6711	6713	150	85	1
PIPE	6712	6713	100	150	1
PIPE	6712	6715	100	240	1
PIPE	6713	6714	150	185	1
PIPE	6714	6716	150	30	1
PIPE	6714	6718	100	120	1
PIPE	6715	6716	100	215	1
PIPE	6715	6723	100	300	1



PIPE	6716	6719	150	150	1
PIPE	6717	6718	100	50	1
PIPE	6718	6725	100	280	1
PIPE	6719	6720	150	90	1
PIPE	6720	6721	150	40	1
PIPE	6721	6722	150	100	1
PIPE	6721	6730	150	280	1
PIPE	6722	6724	150	160	1
PIPE	6723	6724	100	60	1
PIPE	6724	6732	150	210	1
PIPE	6725	6726	100	50	1
PIPE	6727	6728	100	40	1
PIPE	6728	6729	100	80	1
PIPE	6729	6730	100	100	1
PIPE	6730	6731	100	210	1
PIPE	6730	6733	100	50	1
PIPE	6731	6732	100	100	1
PIPE	6731	7012	100	365	1
PIPE	6733	6734	100	45	1
PIPE	6733	6737	150	215	1
PIPE	6734	6735	100	35	1
PIPE	6734	6736	100	100	1
PIPE	6735	6738	100	150	1
PIPE	7001	7002	200	155	1
PIPE	7002	7004	200	225	1
PIPE	7003	7005	100	200	1
PIPE	7004	7006	200	245	1
PIPE	7005	7007	200	35	1
PIPE	7006	7007	200	160	1
PIPE	7008	HUTEENI	150	10	1
PIPE	7008	7009	150	55	1
PIPE	7009	7012	150	190	1
PIPE	7009	7013	150	225	1
PIPE	7010	7011	100	150	1
PIPE	7010	7014	100	210	1
PIPE	7012	7018	100	340	1
PIPE	7013	7014	150	80	1
PIPE	7014	7015	150	100	1

PIPE	7014	7017	100	235	1
PIPE	7015	7016	150	200	1
PIPE	7017	7018	100	35	1
PIPE	7017	7020	100	485	1
PIPE	7018	7019	100	60	1
PIPE	7019	7021	100	90	1
PIPE	7021	7022	100	225	1
PIPE	7022	7023	100	90	1
PIPE	7023	7024	100	140	1
PIPE	7024	7025	100	125	1
PIPE	7025	7026	150	60	1
PIPE	7025	7028	150	60	1
PIPE	7026	HUTEEN2	150	10	1
PIPE	7027	7029	100	400	1
PIPE	9014	9015	150	40	1
PIPE	9021	9022	150	25	1
PIPE	9034	B3809	100	150	0.95
PIPE	5410	5606	200	550	0.95
PIPE	R600IN	WELL21	300	200	0.95
PIPE	R600IN	WELL22	300	200	0.95
PIPE	R600IN	WELL23	300	710	0.95
PIPE	B5010	B5011	200	10	0.95
PIPE	B4915A	B4916	100	270	0.95
PIPE	B5031	B5032	100	260	0.95
PIPE	B5029	B5030A	100	140	0.95
PIPE	R750PIN	RES750	300	30	0.95
PIPE	4018	R600OUT	500	710	0.95
PIPE	4018	6114	500	2290	0.95
PIPE	6114	N6102	500	770	0.95
PIPE	5325	N6102	500	655	0.95
PIPE	5325	R750IN	500	2650	0.95
PIPE	BRUS4IN	BRS4OUT	300	20	0.95
PIPE	3912	4130	200	600	0.95
PIPE	4130	4143	200	650	0.95
PIPE	4143	4205	200	340	0.9
PIPE	R600O3	R635IN	300	2240	0.95
PIPE	AWAGIN	R600O2	500	2260	0.95
PIPE	5932	6065	200	110	0.95

PIPE 66214 WELL18 250 250 0.95

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## 2. Residual Head Data (Rusaifa & Awajan 2015)

NODE NAME	TOTAL AVAILABLE	
	HEA (m)	HEAD (m)
3502	693.94	132.44
3504	693.98	131.98
3508	694.01	111.51
3601	694.03	120.03
3603	694.03	121.03
3604	694.03	124.03
3605	694.04	110.54
3606	694.11	99.11
3607	694.13	90.13
3608	691.86	120.86
3609	693.65	93.65
3610	692.67	93.47
3611	694.07	82.07
3612	689.72	108.72
3613	689.4	82.4
3614	686.55	105.05
3615	688.05	105.55
3616	690.17	107.67
3618	690.13	105.13
3619	684	92
3620	688.29	105.79
3621	685.36	78.36
3622	684.07	94.07
3623	688.46	107.46
3624	684.24	98.24
3625	684.66	89.66
3626	684.09	97.59
3627	684.06	98.06
3629	684.06	103.06
3630	684	104
3701	695.37	109.37
3702	695.13	103.13
3703	695.31	100.31

3704	695.28	109.28
3705	695.15	103.65
3706	788.86	197.36
3707	695.05	105.05
3708		*Isolated*
3709		*Isolated*
3710	694.1	102.6
3711	694.95	117.95
3712	694.62	113.62
3713	693.4	120.9
3714	695.03	112.53
3715	694.9	117.4
3716	694.74	123.24
3717	693.06	95.56
3718	694.73	120.73
3719	693.41	103.41
3720	693.43	105.93
3721	694.02	122.32
3722	693.49	99.49
3723	693.62	99.62
3724	694.71	120.71
3725	694.71	111.21
3726	694.23	99.73
3727	694.31	93.31
3728	694.08	102.08
3729	691.92	103.92
3730	694.14	101.14
3731	691.66	101.66
3732	690.84	98.34
3733	690.61	90.61
3734	689.86	84.86
3735	689.84	84.84
3736	690.47	90.47
3801	689.85	89.85
3802	689.83	77.83
3803	689.5	77.5
3804	689.7	77.7
3805		*Isolated*

3806	689.2	89.2
3807	688.39	97.59
3901	688.38	68.38
3902	688.39	78.39
3903	688.51	88.71
3904	688.6	86.2
3905	688.89	83.99
3906	688.44	83.44
3907	690.83	56.83
3909	688.69	88.69
3910	692.43	26.53
3912	695.74	25.74
3914	692.75	100.25
3915	690.29	98.99
3916	691.02	39.02
3917	692.14	100.84
3918	690.93	90.43
3919	690.88	81.98
3920	690.75	49.45
3921	690.74	67.94
3922	690.97	87.27
3923	692.77	101.27
3924	690.7	64.7
3925	690.65	54.85
3926	695.39	110.59
3927	695.37	108.37
3930	690.06	80.06
4001	683.19	15.19
4002	682.73	14.23
4003	681.34	16.34
4004	680.18	31.18
4005	680.02	32.02
4006	695.85	50.85
4007	680.9	50.9
4008	684.96	36.96
4009	684.63	34.63
4010	684.69	34.69
4011	690.05	47.05

4012	690.5	62.5
4013	692.08	49.48
4014	689.97	74.97
4015	683.95	59.35
4016	683.94	25.74
4017	684.39	56.39
4018	785.93	200.93
4019	684.33	52.33
4020	691.42	69.42
4021	686.2	60
4022	690	80
4023	684.48	68.88
4024	692.41	80.41
4025	694.35	104.35
4026	695.46	99.46
4027	689.93	86.93
4028	695.55	81.55
4029	695.49	114.49
4030	689.93	89.93
4031	691.3	86.3
4032	689.96	89.96
4033	684.91	87.41
4034	687.13	67.13
4035	688.36	73.36
4036	687.89	73.79
4037	685.1	94.6
4038	693.44	103.44
4039	687.9	70.9
4040	689.25	84.25
4041	693.4	106.4
4042	693.4	111.4
4043	689.91	111.91
4044	690.39	117.89
4101	745	67
4102	745.37	87.37
4103	745.4	85.4
4104	745.48	87.48
4105	744.87	63.87

4106	745.25	68.25
4107	745.32	64.32
4108	744.86	64.86
4109	745.23	85.23
4110	745.35	80.35
4111	745.21	87.21
4112	745.66	95.66
4113	745.35	89.35
4114	745.16	77.16
4115	745.15	77.15
4116	745.33	75.33
4117	745.16	74.16
4118	745.13	72.13
4119	745.14	69.14
4120	745.13	82.13
4121	744.03	76.03
4122	745.13	72.13
4123	745.13	62.13
4124	745.13	72.13
4125	745.13	71.13
4126	743.85	90.85
4127	743.84	99.84
4128	744.15	50.15
4129	744.15	49.15
4130	696.97	1.97
4131	696.62	16.62
4132	696.8	6.8
4133	696.78	6.78
4134	696.46	21.46
4135	696.96	1.96
4136	696.94	1.94
4137	691.85	16.35
4138	696.78	11.78
4139	696.09	23.59
4140	694.95	37.45
4141	696	23.5
4142	690.03	7.03
4143	693.07	53.07



4201	682.72	40.72
4202	687.59	77.59
4203	683.71	88.71
4204	681.16	31.16
4205	691.15	91.15
4206	680.29	86.59
4207	679.82	64.92
4208	680.68	40.68
4211	679.83	93.83
4213	679.64	41.64
4214	679.78	44.78
4215	679.99	67.49
4218	679.4	81.9
4219	679.57	107.07
4221	679.31	104.11
4223	678.52	66.02
4224	678.91	60.91
4225	679.16	104.16
4226	678.91	61.41
4227	678.51	63.51
4228	678.11	109.11
4229	678.6	96.1
4230	678.07	118.07
4231	678.66	97.46
4232	679.21	92.31
4233	678.53	100.53
4234	678.53	108.23
4235	684.42	90.42
4236	685.44	91.44
4237	685.52	91.52
4239	689.81	114.81
4240	690.83	120.83
4241	693.82	124.32
4242	693.87	128.87
4243	693.87	129.37
4305	626.26	28.26
4307	626.12	26.12
4308	626.11	26.11

4309	626.27	34.77
4310	626.18	38.18
4311	626.3	40.3
4312	626.31	45.31
4313	626.41	47.71
4314	626	56.5
4315	626.18	33.68
4316	626.29	46.29
4317	626.42	63.42
4318	626.8	51.8
4319	626.61	36.61
4320	626.6	56.1
4321	626.83	66.83
4322	626.96	56.96
4323	626.67	36.97
4324	626.7	37.9
4325	626.79	39.29
4326	627.4	67.4
4327	627.31	67.31
4328	626.81	45.31
4329	627.15	44.65
4330	627.83	58.83
4331	625.04	56.04
4332	624.96	56.96
4333	624.98	56.98
4334	628	67
4335	626.04	62.04
4336	627.04	52.04
4337	625.83	63.83
4338	628.4	73.4
4339	627.74	37.74
4340	627.95	42.95
4390	624.82	66.82
4401	696.08	41.58
4402	626.4	27.9
4403	696.1	81.1
4404	626.4	38.9
4405	626.32	36.32

4406	626.39	39.39
4407	696.11	102.61
4501	626.15	31.15
4502	626.14	34.14
4503	626.14	38.64
4504	626.15	30.15
4505	626.25	37.75
4506	626.14	49.14
4507	626.21	53.71
4508	626.26	52.26
4509	626.36	53.86
4510	626.36	52.86
4511	626.38	56.38
4512	626.62	47.62
4513	626.45	54.95
4514	626.64	52.64
4515	626.71	66.71
4516	626.76	61.76
4517	627.02	66.52
4518	627.21	72.21
4519	627.24	67.24
4520	627.26	75.26
5301	809.53	64.53
5302	809.04	86.04
5303	741.33	41.33
5304	741.35	37.35
5305	808.74	90.74
5306	808.84	98.84
5307	741.67	46.67
5308	808.76	106.76
5309	809.4	72.4
5310	741.87	19.87
5311	808.75	83.75
5313	741.85	21.85
5314	808.78	78.78
5315	808.6	120.6
5316	741.5	53.5
5317	741.49	58.49

5318	741.08	24.08
5320	741.19	53.19
5321	741.12	56.12
5322	741.16	28.16
5323	741.56	66.56
5324	741.92	66.92
5325	764.76	90.76
5326	765.35	88.35
5327	744.41	76.41
5328	746.48	66.48
5329	746.1	59.1
5330	746.88	59.88
5331	744.47	54.47
5332	745.42	58.42
5333	745.83	55.83
5334	745.39	55.39
5335	745.39	63.39
5336	745.69	57.69
5337	745.88	62.88
5338	745.59	63.59
5339	745	57
5340	744.88	82.88
5341	745.02	63.02
5342	745.35	75.35
5343	745.41	67.41
5344	744.86	74.86
5401	741.35	66.35
5402	739.17	63.17
5403		*Isolated*
5404	690.09	64.09
5405	738.39	63.39
5406	738.27	63.27
5407	737.94	74.94
5408	737.81	66.81
5409	744.34	69.34
5410	744.32	66.32
5411	737.79	78.79
5412	737.79	70.79

5413	738.03	112.03
5414		*Isolated*
5415	690.09	66.09
5416	743.96	88.96
5417	689.86	51.86
5418	689.86	47.86
5419	743.96	102.96
5420	690.09	66.09
5421	689.86	44.86
5422	689.72	44.72
5423	737.95	94.95
5424	738.05	113.05
5425	689.45	44.45
5426	737.99	114.99
5427	737.96	107.96
5428	738	116
5429	689.3	53.3
5430	690.05	67.05
5431	744.57	102.57
5432	689.87	54.87
5433	738.08	88.08
5434	738.17	88.17
5435		*Isolated*
5436	689.28	59.28
5437	744.55	99.55
5438	744.05	111.05
5439	744.55	115.55
5440	744.03	114.03
5441	743.9	113.9
5442	743.83	118.83
5443	743.58	120.58
5501	740.11	56.11
5502	740.98	52.98
5503	740	60
5504	741.11	48.11
5505	739.97	77.97
5506	739.98	75.98
5507	740.88	65.88

5508	740.88	70.88
5509	742.21	50.21
5510	742.23	65.23
5511	742.41	51.41
5512	743.02	53.02
5513	743.07	53.07
5514	744.08	127.08
5515	744	118
5516	744.08	116.08
5517	744.16	74.16
5518	744.2	75.2
5519	744.3	69.3
5520	744.3	69.3
5521	744.28	68.28
5522	744.29	69.29
5523	744.2	76.2
5524	744.22	67.22
5525	744.33	64.33
5526	744.32	69.32
5527	744.19	77.19
5528	744.36	101.36
5529	744.24	67.24
5530	744.27	66.27
5531	744.24	75.24
5532	689.86	39.86
5533	744.43	65.43
5534	744.17	77.17
5535	744.25	72.25
5536	744.27	67.27
5537	744.42	86.42
5538	744.26	78.26
5539	744.3	80.3
5540	744.65	66.65
5541	744.33	72.33
5542	744.15	75.15
5543	744.75	88.75
5544	744.16	85.16
5545	744.57	68.57

5546	744.15	85.15
5547	744.77	68.77
5548	744.43	79.43
5549	744.77	90.77
5550	745.06	70.06
5551	745.08	71.08
5552	743.89	84.89
5553	744.91	68.91
5554	743.45	92.45
5555	743.94	67.94
5556	744.78	91.78
5557	743.6	82.6
5558	744.88	68.88
5559	744.89	66.88
5560	744.9	68.9
5561	743.67	70.67
5562	743.38	93.38
5563	743.38	82.38
5564	743.28	101.28
5565	743.28	82.28
5566	743.38	74.38
5567	743.22	84.22
5568	743.24	75.24
5569	743.22	107.22
5570	744.62	60.62
5571	743.18	82.18
5572	743.18	108.18
5573	743.17	81.17
5574	743.16	85.16
5575	743.14	109.14
5576	743.14	93.14
5601	739.87	44.87
5602	745.21	67.21
5603	745.3	60.3
5604	744.69	62.69
5605	746.98	63.98
5606	747.07	65.07
5607	745.53	57.53

5608	744.79	51.79
5609	744.52	44.52
5610	744.95	44.95
5611	739.87	63.87
5612	741.62	53.62
5613	744.42	84.42
5614	744.39	83.39
5615	746.11	76.11
5616	744.4	81.4
5617	742.8	62.8
5618	742.63	72.63
5619	743.44	99.44
5620	742.58	72.58
5621	744.51	79.51
5622	742.38	84.38
5623	742.42	80.42
5624	743.48	79.48
5625	742.54	92.54
5626	742.38	92.38
5701	744.07	128.07
5702	743.43	100.43
5703	743.5	120.5
5704		*Isolated*
5705	689.96	71.96
5706	743.45	94.45
5707	743.46	108.46
5708	743.52	92.52
5709	689.91	73.91
5710	743.48	92.48
5711	689.85	67.85
5712	689.91	66.91
5713	743.46	94.46
5714	743.45	100.45
5715	743.55	94.55
5716	743.86	91.86
5717	743.45	107.45
5718	743.46	118.46
5719	689.91	72.91



5720	743.45	119.45
5721	742.36	92.36
5722	743.44	102.44
5723	742.88	92.88
5724	745.01	85.01
5725	743.43	111.43
5726	689.91	69.91
5727	743.45	103.45
5728	743.43	102.43
5729	743.52	101.52
5730	743.45	100.45
5731	743.94	103.94
5732	743.43	106.43
5733	739.7	82.7
5734	743.72	115.72
5735	743.54	122.54
5736	744.01	61.01
5737	744.55	92.55
5738	743.54	92.54
5739	743.54	116.54
5740	743.82	73.82
5741	743.56	95.56
5742	743.85	61.85
5743	743.56	116.56
5744	743.31	91.31
5745	743.48	72.48
5746	743.85	65.85
5747	743.7	97.7
5748	743.7	121.7
5749	743.27	93.27
5750	743.84	98.84
5751	743.43	73.43
5752	743.82	100.82
5753	743.05	108.05
5754	743.82	122.82
5755	743.21	78.21
5756	744	126
5757	743.2	83.2

5801	744.78	92.78
5802	744.64	74.64
5803	744.57	93.57
5804	744.56	86.56
5805	744.56	99.56
5806	744.56	85.56
5807	744.55	104.55
5808	744.56	85.56
5809	744.55	106.55
5810	744.56	84.56
5811	744.55	108.55
5812	744.57	109.57
5813	744.55	109.55
5814	743.12	109.12
5815	743.17	86.17
5816	743.12	98.12
5817	744.74	93.74
5818	744.73	90.73
5819	743.08	101.08
5820	743.08	93.08
5821	684.64	33.64
5822	743.09	88.09
5823	684.7	46.7
5824	743.07	96.07
5825	684.57	46.57
5826	743.06	109.06
5827	684.78	61.78
5828	689.86	67.86
5829	684.95	56.95
5830	743.04	110.04
5831	743.04	104.04
5832	684.53	45.53
5833	684.24	38.24
5834	683.81	39.81
5835	684.18	42.18
5836	689.91	73.91
5837	683.86	44.86
5838	683.81	36.81

5839	683.68	33.68
5840	683.51	38.51
5841	683.63	33.63
5842	683.23	41.23
5843	683.5	35.5
5844	683.63	35.63
5845	683.73	28.73
5846	683.8	28.8
5847	683.25	33.25
5848	682.89	45.89
5849	684.02	34.02
5850	684.76	51.76
5851	682.98	39.98
5852	683	35
5853	682.85	36.85
5854	682.77	41.77
5855	682.77	41.77
5856	682.77	41.77
5901	682.77	44.77
5902	683.03	48.03
5903	682.81	42.81
5904	682.77	44.77
5905	682.77	51.77
5906	685.71	49.71
5907	682.76	51.76
5908	682.76	57.76
5909	682.76	45.76
5910	682.77	56.77
5911	682.76	58.76
5912	682.76	56.76
5913	682.75	49.75
5914	682.75	80.75
5915	685.65	77.65
5916	689.9	79.9
5917	686.5	76.5
5918	686.21	81.21
5919	686.04	62.04
5920	683.78	43.78

5921	683.79	53.79
5922	683.5	53.5
5923	683.52	53.52
5924	683.21	53.21
5925	682.34	62.34
5926	682.39	72.39
5927	682.48	41.48
5928	682.35	37.35
5929	682.46	67.46
5930	682.73	77.73
5931	682.11	47.11
5932	690.46	93.46
6001	743.12	92.12
6002	743.11	89.11
6003	743.12	92.12
6004	743.02	112.02
6005	742.92	97.92
6006	742.93	112.93
6007	742.95	122.95
6008	743.09	133.09
6009	742.93	82.93
6010	742.99	74.99
6011	743.11	113.11
6012	744.89	70.89
6013	743.21	88.21
6014	744.8	71.8
6015	743.52	77.52
6016	743.07	133.07
6017	744.5	77.5
6018	743.35	88.35
6019	743.06	133.06
6020	743.34	108.34
6021	743.54	82.54
6022	743.36	93.36
6023	742.45	82.45
6024	742.53	76.53
6025	743.53	80.53
6026	743.46	88.46

6027	743.66	85.66
6028	742.43	87.43
6029	743.51	85.51
6030	744.23	86.23
6031	744.18	93.18
6032	743.54	92.54
6033	743.46	103.46
6034	743.42	94.42
6035	743.43	91.43
6036	687.16	37.16
6037	743.44	96.44
6038	743.42	97.42
6039	687.18	44.18
6040	688.6	40.6
6041	743.42	114.42
6042	686.73	54.73
6043	688.48	61.48
6044	688.54	45.54
6045	688.55	56.55
6046	688.49	62.49
6047	688.49	64.49
6048	688.49	67.49
6049	686.83	55.83
6050	688.51	87.51
6051	686.91	60.91
6052	688.76	58.76
6053	688.63	65.63
6054	688.37	58.37
6055	688.92	65.92
6056	688.47	73.47
6057	689.16	82.16
6058	688.37	63.37
6059	688.47	81.47
6060	688.37	66.37
6061	689.48	79.48
6062	688.51	77.51
6063	688.28	77.28
6064	687.69	84.69

6065	689.9	91.9
6066	689.89	91.89
6067	688.63	89.63
6068	688.29	88.29
6069	687.95	90.95
6101		*Isolated*
6102	745.87	68.87
6103	744.98	64.98
6104	744.95	67.95
6105	744.09	79.09
6106	744.01	84.01
6107	744.02	78.02
6108	744.03	84.03
6109	743.94	88.94
6110	744.04	68.04
6111	743.93	86.94
6112	743.94	78.94
6113	744.95	70.95
6114	772.85	98.85
6115	744.9	70.9
6116	744.24	99.24
6117	744.08	83.08
6118	743.47	103.47
6119	744.03	76.03
6120	743.05	102.05
6121	742.8	102.8
6122	743.8	80.8
6123	742.54	79.54
6124	742.7	102.7
6125	742.54	86.54
6126	742.59	74.59
6127	684.92	44.92
6128	684.83	46.83
6129	685.11	45.11
6130	685.24	37.24
6131	684.78	49.78
6132	684.74	34.74
6133	685.27	53.27

6134	685.43	38.43
6135	685.32	63.32
6136	685.38	62.38
6137	685.39	47.39
6138	685.52	61.52
6139	686.7	53.7
6201	692.07	106.07
6202	692.3	85.3
6203	692.32	99.82
6204	692.51	94.51
6205	692.55	95.55
6206	692.54	95.54
6207	692.53	96.53
6208	695.31	99.01
6209	692.51	92.51
6601	796.06	61.06
6602	796.06	101.06
6603	811.76	51.76
6604	810.49	40.49
6605	810.01	58.01
6606	811.76	58.76
6607	794.74	36.74
6608	811.31	69.31
6609	810.87	60.87
6610	796.09	69.09
66100	800.02	88.02
66101	739.16	58.16
66102	800.02	89.02
66103	800.02	88.02
66104	810.13	106.13
66105	739.46	32.46
66106	739.47	27.47
66107	774.09	55.09
66108	800.01	100.01
66109	800.01	94.01
6611	794.59	76.59
66110	800.01	93.01
66111	739.33	58.33

66112	739.31	42.31
66113	739.44	39.44
66114	741.85	48.85
66115	800	104
66116	739.49	40.49
66117	739.31	54.31
66118	739.53	33.53
66119	800	100
6612	794.61	51.61
66120	739.47	36.47
66121	739.32	51.32
66122	739.36	73.36
66123	810.16	78.16
66124	800	100
66125	740.21	40.21
66126	800	105
66127	800	103
66128	800.04	95.04
66129	740.21	43.21
6613	811.75	81.75
66130	739.7	65.7
66131	741.87	39.87
66132	800	102
66133	800.14	105.14
66134	739.37	102.37
66135	740.21	42.21
66136	739.69	47.69
66137	739.74	41.74
66138	800.04	100.04
66139	739.7	65.7
6614	796.15	52.15
66140	739.7	65.7
66141		*Isolated*
66142	800.03	104.03
66143	800.05	102.05
66144	741.31	35.31
66145	740.39	47.39
66146	800.14	100.14



66147	739.69	41.69
66148	739.46	48.46
66149	741.88	39.88
6615	794.59	76.59
66150	741.92	37.92
66151	741.9	34.9
66152	740.4	47.4
66153	740.43	46.43
66154	800.04	103.04
66155	740.45	44.45
66156	739.76	39.76
66157	739.76	65.76
66158	740.41	45.41
66159	740.56	42.56
6616	809.68	100.68
66160	740.43	47.43
66161	740.4	43.4
66162	739.68	96.68
66163	740.43	45.43
66164	739.58	41.58
66165	740.72	45.72
66166	739.47	51.47
66167	810.14	80.14
66168	810.14	80.14
66169	740.98	43.98
6617	809.68	84.68
66170	740.52	45.52
66171	739.84	47.84
66172	740.53	56.53
66173		*Isolated*
66174	690.1	54.1
66175	739.84	59.84
66176	741.82	41.82
66177	739.41	47.41
66178	740.61	57.61
66179	741.31	44.31
6618	809.69	83.69
66180	740.6	53.6

66181	740.7	57.7
66182	740.92	57.92
66183	739.94	53.94
66184	739.46	49.46
66185	739.93	68.93
66186	810.13	90.13
66187	740.87	50.87
66188	810.2	84.2
66189	740.98	48.98
6619	809.74	54.74
66190	740.06	59.06
66191	741.1	46.1
66192	742	46
66193	810.1	91.1
66194	739.98	68.98
66195	740.92	54.92
66196	742.01	47.01
66197	739.95	99.95
66198	740.93	52.93
66199	739.97	68.97
6620	738.76	36.76
66200	739.99	106.99
66201	739.95	100.95
66202	740.1	100.1
66203	690.1	56.1
66204	740.21	108.21
66205	740.4	109.4
66206		*Isolated*
66207	740.35	107.35
66208	739.32	64.32
66209	739.32	72.32
6621	796.24	38.24
66210		*Isolated*
66211	739.32	64.32
66212	628	-7
66213	741.11	29.11
66214	690.1	60.1
66215	740.87	66.87

66216	690.1	62.1
6622	738.76	38.76
6623	796.23	48.23
6624	796.18	41.18
6625	813.58	101.58
6626	738.78	34.78
6627	809.7	67.7
6628	809.68	98.68
6629	813.51	116.51
6630	738.87	46.87
6631	738.88	68.88
6632	738.89	61.89
6633	802.16	65.16
6634	738.91	60.91
6635	810.05	58.05
6636	813.49	123.49
6637	739.11	49.11
6638	813.49	135.49
6639	738.92	58.92
6640	778.55	46.55
6641	802.04	72.04
6642	738.91	61.91
6643	738.92	63.92
6644	739.26	73.26
6645	738.97	62.97
6646	739.26	67.26
6647	738.94	60.94
6648	810.05	80.05
6649	690.1	45.1
6650	739.2	33.2
6651	787.4	69.4
6652	739.26	42.26
6653	800.9	85.9
6654	738.95	68.95
6655	800.09	74.09
6656	801.83	71.83
6657	810.09	68.09
6658	739.26	44.26

6659	739.26	67.26
6660	739.27	89.27
6661	739.26	32.26
6662	800.09	75.09
6663	738.97	83.97
6664	786.56	78.56
6665	739.26	67.26
6666	739.26	43.26
6667	739.29	26.29
6668	739.29	34.29
6669	800.3	87.3
6670	739.01	83.01
6671	739.19	54.19
6672	739.08	99.08
6673	739	81
6674	801.64	73.64
6675	739.34	35.34
6676	800.71	73.71
6677	800.09	88.09
6678	800.09	85.09
6679	800.1	86.1
6680	800.11	86.11
6681	800.13	89.13
6682	739.33	39.33
6683	739.12	104.12
6684	739.15	105.15
6685	739.41	39.41
6686	810.14	83.14
6687	739.21	46.21
6688	739.2	46.2
6689	739.4	26.4
6690	800.06	93.06
6691	800.07	94.07
6692	800.06	88.06
6693	739.41	36.41
6694	739.44	44.44
6695	739.44	91.44
6696	739.16	56.16

6697	739.44	32.44
6698	800.03	92.03
6699	800.03	98.03
6701	794.75	33.75
6702	795.82	19.82
6703	796.26	44.26
6704	796.28	33.28
6705	796.29	38.29
6706	796.38	42.38
6707	796.58	44.58
6708	796.81	38.81
6709	797.2	47.2
6710	797.22	40.22
6711	798.92	41.92
6712	795.51	47.51
6713	796.04	33.04
6714	791.95	32.95
6715	790.74	61.74
6716	790.99	33.99
6717	798.21	52.21
6718	794.29	47.29
6719	787.5	50.5
6720	785.82	56.82
6721	785.24	51.24
6722	785.29	60.29
6723	785.92	67.92
6724	785.54	67.54
6725	791.74	48.74
6726	791.63	49.63
6727	777.73	50.73
6728	777.82	52.82
6729	778.55	53.55
6730	780.72	64.72
6731	783.25	65.25
6732	785.71	75.71
6733	776.58	59.58
6734	774.88	54.88
6735	774.53	49.53

6736	774.65	48.65
6737	776.52	71.52
6738	774.1	47.1
7001	796.22	62.22
7002	796.22	54.22
7003	796.21	75.21
7004	796.22	59.22
7005	796.22	58.22
7006	796.22	58.22
7007	796.22	51.22
7008	741.86	36.86
7009	741.85	42.85
7010	741.79	24.79
7011	741.78	44.78
7012	741.85	38.85
7013	741.82	41.82
7014	741.81	33.81
7015	741.81	30.81
7016	741.81	62.81
7017	741.81	46.81
7018	741.82	57.82
7019	741.82	59.82
7020	741.8	59.8
7021	741.82	54.82
7022	741.82	48.82
7023	741.84	46.84
7024	741.9	53.9
7025	741.98	61.98
7026	741.98	76.98
7027	741.98	62.98
7028	741.98	65.98
7029	741.96	61.96
9014	695.37	113.17
9015	695.39	113.89
9016	695.51	105.51
9017	695.45	83.45
9018	695.32	103.32
9021	694.59	95.59

9022	694.43	97.43
9025		*Isolated*
9034	688.21	90.71
9035		*Isolated*
AWAGAN	697	2
AWAGIN	697	2
B18IN	628	2
B3801	688.37	93.37
B3802	688.1	93.1
B3803	688.08	93.08
B3804	688.07	93.07
B3805	689.36	79.36
B3806	689.29	69.29
B3807	689.17	74.17
B3808	687.93	82.93
B3809	687.92	87.92
B3810	687.74	72.74
B3811	687.66	72.66
B3812	687.68	77.68
B3813	687.54	72.54
B3814	687.55	72.55
B3815	687.58	72.58
B3816	687.61	82.61
B3817	687.62	82.62
B3818	687.57	72.57
B3819	687.48	62.48
B3820	687.48	62.48
B4101	689.05	84.05
B4102	689.77	79.77
B4103	689.71	74.71
B4104	689.69	69.69
B4105	692.42	52.42
B4106	689.67	59.67
B4107	689.7	49.7
B4108	745.32	80.32
B4109	744.47	94.47
B4110	744.47	69.47
B4111	744.09	49.09

B4112	744.09	64.09
B4113	744.24	64.24
B4114	744.31	79.31
B4115	743.93	63.93
B4116	744.23	69.23
B4117	744.21	74.21
B4118	744.17	69.17
B4119	744.15	74.15
B4120	744.25	89.25
B4121	744.21	94.21
B4122	744.39	109.39
B4123	744.3	94.3
B4124	744.18	89.18
B4125	743.99	48.99
B4126	743.99	38.99
B4127	743.85	68.85
B4128	743.84	93.84
B4129	743.84	93.84
B4130	743.83	93.83
B4131	743.84	73.84
B4132	743.83	73.83
B4133	743.82	93.82
B4201	687.86	87.86
B4202	684.25	84.25
B4203	682.15	77.15
B4204	681.26	96.26
B4205	682.14	52.14
B4206	681.31	71.31
B4207	680.95	55.95
B4208	680.59	50.59
B4341	626.74	46.74
B4342	625.8	63.8
B4343	626.77	11.77
B4344	627.48	12.48
B4345	627.42	17.42
B4346	626.85	41.85
B4347	626.6	36.6
B4348	626.79	26.79



B4349	626.42	31.42
B4350	626.42	51.42
B4351	626.57	56.57
B4352	626.5	61.5
B4353	626.5	63.5
B4354	626.16	31.16
B4355	627.07	72.07
B4356	626.26	31.26
B4357	626.29	48.29
B4358	626.41	26.41
B4401	696.25	86.25
B4402	696.22	81.22
B4403	696.25	91.25
B4404	696.17	66.17
B4405	696.18	56.18
B4406	696.21	66.21
B4407	696.21	56.21
B4408	696.23	56.23
B4409	696.23	66.23
B4410	696.23	76.23
B4411	696.15	46.15
B4412	696.13	46.13
B4413	696.11	71.11
B4414	696.11	51.11
B4415	696.11	91.11
B4416	696.11	76.11
B4417	696.13	26.13
B4418	696.13	21.13
B4419	696.14	46.14
B4420	696.08	51.08
B4421	696.07	71.07
B4422	696.07	81.07
B4423	696.04	66.04
B4424	695.98	45.98
B4425	695.94	30.94
B4426	695.94	35.94
B4427	695.93	55.93
B4428	695.93	60.93

B4429	695.93	70.93
B4430	695.92	60.92
B4431	695.92	65.92
B4432	695.92	90.92
B4433	695.95	75.95
B4434	695.99	85.99
B4435	696.11	91.11
B4436	695.93	60.93
B4437	695.93	85.93
B4438	696.01	106.01
B4439	696.21	66.21
B4440	696.2	51.2
B4441	696.25	46.25
B4442	696.53	56.53
B4443	696.55	71.55
B4444	696.78	46.78
B4445	696.22	56.22
B4446	696.22	61.22
B4450	749.29	79.29
B4451	749.29	74.29
B4501	627.23	77.23
B4502	627.12	67.12
B4503	627.06	72.06
B4504	626.48	46.48
B4505	626.43	46.43
B4506	626.43	46.43
B4507	626.42	61.42
B4508	626.48	46.48
B4509	626.34	51.34
B4510	626.36	46.36
B4511	626.62	61.62
B4512	626.71	66.71
B4513	626.8	71.8
B4514	626.68	56.68
B4515	626.32	66.32
B4516	626.25	41.25
B4517	626.19	66.19
B4518	626.19	76.19

B4519	626.23	61.23
B4520	626.23	81.23
B4521	626.12	61.12
B4522	626.12	81.12
B4524	626.11	46.11
B4525	626.08	36.08
B4526	626.12	16.12
B4527	626.08	51.08
B4528	626.07	46.07
B4529	626.07	61.07
B4530	626.07	56.07
B4531	626.07	51.07
B4545	695.78	90.78
B4546	695.13	85.13
B4547	694.7	79.7
B4548	694.46	89.46
B4549	694.32	89.32
B4550	694.16	59.16
B4551	694.2	69.2
B4552	694.5	59.5
B4553	694.7	49.7
B4554	694.06	94.06
B4555	694.05	109.05
B4556	693.98	118.98
B4557	693.97	113.97
B4558	693.94	118.94
B4559	693.93	118.93
B4901	626.08	76.08
B4902	626.08	66.08
B4903	626.08	46.08
B4904	626.08	76.08
B4905	626.08	76.08
B4906	626.08	61.08
B4907	626.08	66.08
B4908	626.07	71.07
B4909	626.07	76.07
B4910	626.07	81.07
B4911	626.07	76.07

B4915	694.29	29.29
B4915A	810	145
B4916	810	45
B4917	810	30
B4918	810	65
B4919	810	75
B5001	693.93	118.93
B5002	693.93	113.93
B5003	693.91	118.91
B5004	693.82	108.82
B5005	693.82	118.82
B5006	693.81	103.81
B5010	695.73	95.73
B5011	695.73	95.73
B5012	695.66	105.66
B5013	695.63	95.63
B5014	695.31	85.31
B5015	694.38	94.38
B5016	695.52	80.52
B5017	695.52	75.52
B5018	695.45	55.45
B5019	695.31	60.31
B5020	695.28	55.28
B5021	694.37	79.37
B5022	695.18	50.18
B5023	695.16	45.16
B5024	695.18	65.18
B5025	695.15	35.15
B5026	695.15	70.15
B5027	695.14	35.14
B5028	695.15	85.15
B5029	694.27	69.27
B5030	770.07	115.07
B5030A	694.21	39.21
B5031	770.02	120.02
B5032	770	45
B5033	770	30
B5034	770.06	105.06

B5035	770.02	95.02
B5036	770	60
B5037	694.37	94.37
B5038	694.33	94.33
B5039	694.31	99.31
B5040	694.31	109.31
B5041	694.3	44.3
B5042	694.29	44.29
B5043	694.33	29.33
B5044	694.36	79.36
B5101	695.6	85.6
B5102	695.6	85.6
B5103	695.59	70.59
B5104	695.58	60.58
B5105	695.58	70.58
B5106	695.59	80.59
B5107	695.58	60.58
B5108	695.58	65.58
B5109	695.57	65.57
B5110	695.57	85.57
B5111	695.57	50.57
B5112	695.58	45.58
B5113	695.58	80.58
B5114	695.61	70.61
B5115	695.73	65.73
B5116	695.57	85.57
B5117	695.57	80.57
B5120	749.01	89.01
B5121	748.99	78.99
B5122	748.98	88.98
B5123	748.98	78.98
B5124	748.98	78.98
B5125	748.98	68.98
B5126	748.98	93.98
B5127	748.98	48.98
B5128	748.98	68.98
B5129	748.98	68.98
B5130	748.98	58.98

B5131	749.01	94.01
B5132	748.99	88.99
B5133	748.98	103.98
B5134	748.98	88.98
B5135	748.98	68.98
B5136	748.98	63.98
B5137	748.98	48.98
B5138	748.98	83.98
B5201	695.93	70.93
B5202	695.93	65.93
B5203	695.94	35.94
B5204	695.93	60.93
B5205	695.93	65.93
B5206	695.93	65.93
B5207	695.93	55.93
B5208	695.93	55.93
B5209	695.93	40.93
B5210	695.94	45.94
B52100	809.25	79.25
B52101	809.25	94.25
B52102	809.25	124.25
B52103	809.26	134.26
B52104	809.26	134.26
B52105	809.26	129.26
B52106	809.26	84.26
B52107	809.26	109.26
B52108	809.26	109.26
B52109	809.26	109.26
B5215	695.74	100.74
B5216	695.62	95.62
B5217	695.59	70.59
B5218	695.58	70.58
B5219	695.58	70.58
B5220	695.58	60.58
B5221	695.58	45.58
B5222	695.58	40.58
B5223	695.58	60.58
B5224	695.58	45.58

B5225	695.58	40.58
B5230	749.29	94.29
B5231	749.3	79.3
B5232	749.3	74.3
B5233	749.3	69.3
B5234	749.3	74.3
B5235	749.3	59.3
B5236	749.3	49.3
B5237	749.3	74.3
B5238	749.3	69.3
B5239	749.3	59.3
B5240	749.31	49.31
B5241	749.3	79.3
B5242	749.3	69.3
B5243	749.3	69.3
B5244	749.31	69.31
B5245	749.31	69.31
B5246	749.31	104.31
B5247	749.31	79.31
B5248	749.31	99.31
B5249	749.31	74.31
B5250	749.33	84.33
B5251	749.34	74.34
B5252	749.34	79.34
B5253	749.32	59.32
B5254	749.38	94.38
B5255	749.41	84.41
B5256	749.44	74.44
B5257	749.47	44.47
B5258	749.48	44.48
B5259	749.48	44.48
B5260	749.48	49.48
B5261	749.48	74.48
B5262	749.47	74.47
B5263	749.46	84.46
B5264	749.5	79.5
B5265	749.51	79.51
B5266	749.56	74.56

B5267	749.61	49.61
B5268	749.61	89.61
B5269	749.66	49.66
B5270	749.65	49.65
B5271	749.46	89.46
B5272	749.29	109.29
B5273	749.14	114.14
B5274	749.66	79.66
B5275	749.66	94.66
B5276	749.75	74.75
B5277	749.78	74.78
B5278	749.92	49.92
B5279	749.93	54.93
B5280	749.46	49.46
B5290	809.25	114.25
B5291	809.25	104.25
B5292	809.25	84.25
B5293	809.25	114.25
B5294	809.26	79.26
B5295	809.26	79.26
B5296	809.26	84.26
B5297	809.25	79.25
B5298	809.25	109.25
B5299	809.25	79.25
B5301	809.27	74.27
B5302	808.9	78.9
B5303	741.25	66.25
B5304	741.09	51.09
B5305	741.08	31.08
B5306	741.1	31.1
B5307	741.03	51.03
B5320	741.83	41.83
B5321	742.05	37.05
B5322	742.31	37.31
B5323	742.05	37.05
B5324	742.03	37.03
B5325	741.65	41.65
B5326	741.68	41.68



B5327	743.09	63.09
B5328	743.3	53.3
B5329	743.29	53.29
B5330	743.98	58.98
B5331	742.36	37.36
B5332	742.26	42.26
B5333	742.31	47.31
B5334	808.23	103.23
B5335	808.32	83.32
B5336	808.51	83.51
B5401	744.32	59.32
B5402	744.47	64.47
B5405	738.41	73.41
B5406	737.94	67.94
B5407	737.94	67.94
B5408	738.01	68.01
B5409	737.99	62.99
B5410	737.99	62.99
B5411	737.89	82.89
B5412	738.53	88.53
B5413	739.03	79.03
B5414	738.2	68.2
B5901	682.12	57.12
B5902	681.98	41.98
B5903	682.11	77.11
B5904	681.68	91.68
B5905	681.64	86.64
B5906	681.63	51.63
B5907	681.67	56.67
B5908	681.64	56.64
B5909	681.59	51.59
B5910	681.58	51.58
B5911	681.57	56.57
B6101	684.85	49.85
B6102	684.78	44.78
B6103	684.74	44.74
B6104	743.15	83.15
B6105	743.1	83.1

B6106	743.66	83.66
B6201	692.37	92.37
B6202	692.32	87.32
B6203	692.3	92.3
B6204	692.3	87.3
B6601	802.19	72.19
B6602	741.26	51.26
B6603	809.19	84.19
B6604	809.03	84.03
B6605	809.72	89.72
B6606	809.59	79.59
B6607	809.93	89.93
B6608	810.15	110.15
B6609	810.36	100.36
B6610	810.36	95.36
B6611	810.36	110.36
B6612	741.17	56.17
B6613	741.13	51.13
B66130	813.38	38.38
B6614	810.22	90.22
B6615	810.28	110.28
B6616	810.36	90.36
B6617	810.36	110.36
B6618	810.42	110.42
B6619	810.45	110.45
B6620	810.29	80.29
B6621	810.29	85.29
B6622	810.52	95.52
B6623	810.8	90.8
B6624	810.87	90.87
B6625	811.83	86.83
B6626	810.19	75.19
B6627	810.44	90.44
B6628	741.11	36.11
B6629	810.07	105.07
B6630	810.07	115.07
B6631	810.07	90.07
B6632	810.09	90.09

B6633	810.09	110.09
B6634	810.12	90.12
B6635	810.11	110.11
B6636	810.12	85.12
B6637	810.17	80.17
B6638	810.16	80.16
B6639	810.14	80.14
B6640	810.13	95.13
B6641	810.19	75.19
B6642	812.44	82.44
B6643	813.46	73.46
B6644	814.75	54.75
B6645	813.55	58.55
B6646	812.92	57.92
B6647	811.89	81.89
B6648	811.69	76.69
B6649	812.16	57.16
B6650	811.28	81.28
B6651	811.03	76.03
B6652	810.71	75.71
B6653	810.71	85.71
B6654	811.04	86.04
B6655	810.45	80.45
B6656	810.57	80.57
B6657	810.57	80.57
B6658	810.37	80.37
B6659	810.6	85.6
B6660	813.49	133.49
B6661	813.52	123.52
B6662	813.61	113.61
B6663	813.65	118.65
B6664	813.75	103.75
B6665	813.73	138.73
B6666	813.54	88.54
B6667	809.75	84.75
B6668	809.71	99.71
B6669	809.69	89.69
B6670	809.68	99.68

B6671	813.41	48.41
B6672	813.47	58.47
B6673	813.55	113.55
B6674	813.49	113.49
BALBIN	690.09	67.09
BALBOUT	738.03	114.03
BRUS4IN	689.92	69.92
BRUS4OUT	689.91	70.91
HUTTEEN1	741.87	36.87
HUTTEEN2	741.98	76.98
N3501	633.24	71.74
N4219	628.97	56.47
N4225	629.87	59.87
N4230	630.98	65.98
N4238	632.09	64.09
N4401	696.2	96.2
N4402	696.36	96.36
N5401	746.05	96.05
N5606	747.16	65.16
N5701	745.03	90.03
N5702	745.03	125.03
N6102	768.47	93.47
R600IN	600	0
R600O2	712.34	112.34
R600O3	644.97	44.97
R600OUT	790.01	190.01
R635IN	635	0
R750IN	750	0
R750PIN	749.29	-0.71
R750PMP	820.73	70.73
R815IN	815	0
RES18	628	2
RES600	600	0
RES635	635	0
RES750	750	0
WELL18	690.12	64.12
WELL21	600.22	0.22
WELL22	600.12	0.12

WELL23	603.37	19.87
WELLALB	690.63	68.63
WPHOS	690.13	53.13

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### III. HASHMEY & SUKNA AREA (2015)

#### 1. Node Data (Hashmey & Sukna 2015)

	FROM	TO	DIAMETER LENGTH ROUGHNESS		
	NODE	NODE	(mm)	(m)	
PIPE	2001	2002	150	430	1
PIPE	2002	2003	150	25	1
PIPE	2003	2004	150	835	1
PIPE	2004	2005	150	20	1
PIPE	2005	2006	150	235	1
PIPE	2006	2007	150	140	1
PIPE	2007	2008	150	1030	1
PIPE	2008	2009	150	50	1
PIPE	2009	2010	150	40	1
PIPE	2009	2064	150	40	1
PIPE	2010	2011	150	130	1
PIPE	2011	2012	150	150	1
PIPE	2011	2151	100	210	1
PIPE	2013	2014	150	25	1
PIPE	2014	2015	150	330	1
PIPE	2015	2016	150	60	1
PIPE	2016	2017	150	60	1
PIPE	2016	2021	150	190	1
PIPE	2017	2018	150	130	1
PIPE	2018	2019	150	280	1
PIPE	2019	2020	150	60	1
PIPE	2021	2022	150	85	1
PIPE	2030	2031	100	125	1
PIPE	2035	2055	100	190	1
PIPE	2040	2041	100	150	1
PIPE	2041	2055	100	160	1
PIPE	2044	2045	100	135	1
PIPE	2053	2054	100	115	1
PIPE	2019	2054	100	70	1
PIPE	2055	2056	100	20	1
PIPE	2048	2056	100	145	1
PIPE	2056	2057	100	145	1

PIPE	2057	2059	100	75	1
PIPE	2057	2058	80	130	1
PIPE	2018	2058	80	200	1
PIPE	2059	2060	100	190	1
PIPE	2017	2060	100	50	1
PIPE	2060	2061	80	105	1
PIPE	2031	2061	80	165	1
PIPE	2064	2065	150	40	1
PIPE	2065	2066	150	910	1
PIPE	2066	2067	150	150	1
PIPE	2067	2068	150	345	1
PIPE	2071	2124	100	75	1
PIPE	2072	2073	100	100	1
PIPE	2073	2074	100	75	1
PIPE	2074	2100	100	90	1
PIPE	2075	2076	100	60	1
PIPE	2076	2079	100	80	1
PIPE	2076	2077	100	150	1
PIPE	2077	2152	100	100	1
PIPE	2072	2078	100	100	1
PIPE	2079	2080	100	100	1
PIPE	2080	2081	100	265	1
PIPE	2081	2082	100	25	1
PIPE	2081	2084	100	65	1
PIPE	2082	2087	100	40	1
PIPE	2082	2083	100	160	1
PIPE	2079	2083	100	200	1
PIPE	2084	2085	100	320	1
PIPE	2085	2086	100	40	1
PIPE	2086	2152	100	100	1
PIPE	2087	2088	100	100	1
PIPE	2088	2089	100	100	1
PIPE	2089	2090	100	320	1
PIPE	2090	2091	100	100	1
PIPE	2091	2092	80	275	1
PIPE	2092	2093	100	60	1
PIPE	2092	2096	100	130	1
PIPE	2093	2094	100	140	1

PIPE	2094	2095	100	170	1
PIPE	2095	2153	100	145	1
PIPE	2096	2097	100	170	1
PIPE	2097	2098	100	190	1
PIPE	2098	3059	150	240	1
PIPE	2100	2101	100	210	1
PIPE	2101	2102	100	120	1
PIPE	2102	2103	80	90	1
PIPE	2103	2104	80	100	1
PIPE	2103	2125	80	100	1
PIPE	2104	2112	100	90	1
PIPE	2104	2105	50	140	1
PIPE	2105	2107	100	50	1
PIPE	2105	2106	100	140	1
PIPE	2106	2108	100	80	1
PIPE	2107	2113	100	60	1
PIPE	2108	2109	100	140	1
PIPE	2109	2110	100	60	1
PIPE	2109	2129	100	250	1
PIPE	2110	2111	100	65	1
PIPE	2068	2111	100	100	1
PIPE	2112	2113	100	60	1
PIPE	2113	2114	100	140	1
PIPE	2114	2118	80	75	1
PIPE	2114	2115	100	105	1
PIPE	2115	2154	100	30	1
PIPE	2118	2122	80	90	1
PIPE	2072	2124	100	85	1
PIPE	2125	2126	80	100	1
PIPE	2126	2127	80	145	1
PIPE	2127	2128	80	170	1
PIPE	2108	2128	80	80	1
PIPE	2129	2130	80	150	1
PIPE	2132	2133	200	390	1
PIPE	2133	2134	200	870	1
PIPE	2135	2136	200	175	1
PIPE	2134	2135	200	950	1
PIPE	2136	2137	200	80	1



PIPE	2137	2138	200	190	1
PIPE	2139	2140	200	40	1
PIPE	2140	2141	200	115	1
PIPE	2148	2150	200	300	1
PIPE	2014	2150	200	90	1
PIPE	2078	2152	100	50	1
PIPE	2088	2153	100	840	1
PIPE	3001	3105	150	20	1
PIPE	3001	3090	100	415	1
PIPE	3002	3089	150	420	1
PIPE	3003	3004	150	190	1
PIPE	3002	3003	150	405	1
PIPE	3004	3005	150	110	1
PIPE	3005	3006	150	140	1
PIPE	3006	3007	150	180	1
PIPE	3007	3008	150	20	1
PIPE	3008	3009	150	60	1
PIPE	3009	3012	150	170	1
PIPE	3007	3010	100	70	1
PIPE	3012	3018	150	175	1
PIPE	3013	3014	80	240	1
PIPE	3014	3106	80	140	1
PIPE	3016	3107	80	20	1
PIPE	3013	3016	80	320	1
PIPE	3016	3017	80	20	1
PIPE	3018	3021	150	115	1
PIPE	3019	3020	100	120	1
PIPE	3021	3088	150	370	1
PIPE	3017	3022	80	110	1
PIPE	3016	3023	100	200	1
PIPE	3024	3025	80	30	1
PIPE	3025	3026	80	20	1
PIPE	3026	3027	80	40	1
PIPE	3027	3028	80	20	1
PIPE	3028	3030	80	70	1
PIPE	3022	3029	80	90	1
PIPE	3029	3030	80	30	1
PIPE	3030	3031	80	80	1

PIPE	3031	3047	80	365	1
PIPE	3031	3032	80	60	1
PIPE	3032	3045	80	400	1
PIPE	3033	3034	100	30	1
PIPE	3023	3033	100	180	1
PIPE	3033	3041	100	380	1
PIPE	3035	3036	100	280	1
PIPE	3034	3035	100	420	1
PIPE	3036	3037	80	20	1
PIPE	3036	3041	100	60	1
PIPE	3037	3038	80	70	1
PIPE	3038	3040	80	70	1
PIPE	3038	3039	80	80	1
PIPE	3038	3042	80	200	1
PIPE	3040	3043	80	190	1
PIPE	3024	3042	80	330	1
PIPE	3042	3043	80	80	1
PIPE	3032	3043	80	210	1
PIPE	3044	3045	80	230	1
PIPE	3046	3047	80	60	1
PIPE	3047	3048	80	170	1
PIPE	3048	3049	80	130	1
PIPE	3029	3048	80	320	1
PIPE	3022	3049	80	380	1
PIPE	3050	3051	100	1500	1
PIPE	3051	3052	100	370	1
PIPE	3052	3053	100	480	1
PIPE	3053	3054	100	705	1
PIPE	3055	3056	150	400	1
PIPE	3056	3057	150	50	1
PIPE	3057	3058	150	225	1
PIPE	2098	3058	150	265	1
PIPE	3059	3060	150	160	1
PIPE	3060	3061	150	130	1
PIPE	3061	3062	150	50	1
PIPE	3062	3063	150	420	1
PIPE	3063	3064	150	335	1
PIPE	3064	3065	150	380	1

PIPE	3065	3066	150	115	1
PIPE	3066	3067	150	500	1
PIPE	3067	3097	150	40	1
PIPE	3068	3069	150	125	1
PIPE	3069	3070	150	95	1
PIPE	3070	3071	150	200	1
PIPE	3071	3072	150	460	1
PIPE	3072	3073	150	115	1
PIPE	3073	3074	150	220	1
PIPE	3074	3075	150	380	1
PIPE	3075	3076	150	180	1
PIPE	3076	3114	100	150	1
PIPE	3076	3115	100	320	1
PIPE	3077	3113	100	180	1
PIPE	3078	3079	100	150	1
PIPE	3079	3080	100	200	1
PIPE	3080	3081	100	160	1
PIPE	3081	3082	100	250	1
PIPE	3082	3083	100	480	1
PIPE	3083	3084	100	250	1
PIPE	3084	3085	100	280	1
PIPE	3085	3086	100	330	1
PIPE	3086	3087	100	650	1
PIPE	3035	3087	100	60	1
PIPE	3090	3091	100	280	1
PIPE	3091	3092	100	140	1
PIPE	3092	3093	100	350	1
PIPE	3093	3094	100	485	1
PIPE	3094	3095	100	465	1
PIPE	3095	3096	100	440	1
PIPE	3067	3096	100	130	1
PIPE	3097	3098	150	140	1
PIPE	3068	3097	150	1060	1
PIPE	3098	3099	150	460	1
PIPE	3099	3100	150	250	1
PIPE	3100	3101	150	640	1
PIPE	3101	3102	150	380	1
PIPE	3102	3103	150	150	1

PIPE	3103	3104	150	290	1
PIPE	3104	3105	150	400	1
PIPE	3089	3105	150	300	1
PIPE	3015	3106	80	155	1
PIPE	3019	3107	100	30	1
PIPE	3011	3107	100	120	1
PIPE	3108	3109	100	250	1
PIPE	3109	3110	100	50	1
PIPE	3110	3111	100	80	1
PIPE	3111	3112	100	85	1
PIPE	3078	3113	100	140	1
PIPE	3077	3114	100	280	1
PIPE	2129	2131	80	60	1
PIPE	2111	2154	100	160	1
PIPE	2071	2154	100	80	1
PIPE	2073	2122	80	105	1
PIPE	2073	3065	100	100	1
PIPE	2141	2145	50	50	1
PIPE	2145	2148	50	50	1
PIPE	2010	2015	150	10	1
PIPE	2021	2030	100	390	1
PIPE	2031	2035	100	250	1
PIPE	2035	2040	100	190	1
PIPE	2048	2053	100	200	1
PIPE	2045	2048	100	270	1
PIPE	2041	2044	100	100	1
PIPE	2012	2150	150	140	1
PIPE	2150	RES600	200	10	1
PIPE	3007	RES580	150	10	1
PIPE	3055	SUPPLY	150	10	1
PIPE	2001	SUPPLY	150	10	1
PIPE	2132	SUPPLY	200	10	1
PIPE	2004	2153	100	235	1
PIPE	3050	3112	100	220	1
PIPE	3020	3112	100	140	1
PIPE	3010	3108	100	70	1
PIPE	3011	3108	100	80	1
PIPE	3055	3097	200	3300	0.95

PIPE	3050	3088	100	10	1
PIPE	3049	3088	100	10	1
PIPE	3018	3019	100	10	1
PIPE	3017	3018	100	10	1
PIPE	2005	2134	200	20	0.95

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## 2. Residual Head Data (Hashmey & Sukna 2015)

NODE NAME	TOTAL HEAD (m)	AVAILABLE HEAD (m)
2001	626.29	86.29
2002	624.56	82.26
2003	624.47	82.17
2004	621.63	26.63
2005	621.63	26.63
2006	599.7	31
2007	599.7	26.8
2008	599.74	34.74
2009	599.74	34.44
2010	599.75	34.45
2011	599.93	29.93
2012	600.19	22.19
2013	600.42	22.42
2014	600.42	22.42
2015	599.75	34.35
2016	599.52	36.02
2017	599.4	35.9
2018	599.32	35.82
2019	599.24	36.74
2020	599.24	36.74
2021	599.48	34.48
2022	599.48	33.98
2030	599.17	40.67
2031	599.12	37.12
2035	599	39
2040	598.98	37.48
2041	598.98	37.48
2044	598.98	36.48
2045	598.98	48.98
2048	599.01	39.01
2053	599.08	37.08
2054	599.16	38.16
2055	599	36

2056	599.01	36.01
2057	599.08	36.08
2058	599.12	35.62
2059	599.11	36.11
2060	599.27	35.77
2061	599.17	35.67
2064	599.74	34.44
2065	599.74	34.44
2066	598.11	31.11
2067	598.11	31.11
2068	598.13	37.23
2071	599.37	67.77
2072	600.92	71.72
2073	601.31	73.31
2074	600.85	75.85
2075	601.68	76.08
2076	601.68	63.38
2077	601.43	67.53
2078	601.16	72.16
2079	601.93	64.43
2080	602	76.2
2081	602.32	47.52
2082	602.54	45.64
2083	602.21	48.31
2084	602.14	49.84
2085	601.47	67.27
2086	601.41	66.81
2087	603.37	44.37
2088	605.67	50.17
2089	605.99	52.09
2090	607.31	54.61
2091	607.82	54.32
2092	613.36	68.96
2093	613.45	69.85
2094	613.75	63.75
2095	614.24	54.24
2096	613.67	73.57
2097	614.21	75.01

2098	614.98	81.78
2100	600.4	73.6
2101	599.54	69.54
2102	599.16	72.07
2103	598.47	58.47
2104	598.38	47.88
2105	598.24	40.64
2106	598.13	42.43
2107	598.29	41.29
2108	598.1	42.3
2109	598.09	38.09
2110	598.12	37.12
2111	598.18	38.88
2112	598.38	44.38
2113	598.38	46.88
2114	598.74	54.94
2115	598.75	53.65
2118	599.24	64.14
2122	600.06	68.16
2124	600.04	66.84
2125	598.26	58.26
2126	598.15	58.15
2127	598.09	51.39
2128	598.09	52.09
2129	597.95	56.05
2130	597.91	52.51
2131	597.93	57.93
2132	626.29	86.29
2133	624.81	82.51
2134	621.63	26.63
2135	618.57	38.57
2136	618.56	39.06
2137	618.56	30.06
2138	618.56	11.06
2139	597.58	32.58
2140	597.58	32.58
2141	597.58	27.58
2145	598.62	26.12



2148	600.46	27.46
2150	600.47	20.47
2151	599.91	29.91
2152	601.31	73.31
2153	614.77	45.77
2154	598.77	52.77
3001	591.02	61.02
3002	586.15	59.58
3003	583.57	58.31
3004	582.41	52.41
3005	581.76	52.76
3006	580.97	237.76
3007	580	20
3008	579.95	19.95
3009	579.81	42.67
3010	579.63	42.75
3011	579.19	50.19
3012	579.44	49.94
3013	578.62	48.62
3014	578.44	54.17
3015	578.37	52.37
3016	579.03	62.37
3017	579.06	64.06
3018	579.08	64.08
3019	579.08	64.08
3020	579.04	64.04
3021	579.04	64.04
3022	578.79	63.79
3023	578.94	59.94
3024	578.27	68.27
3025	578.27	68.27
3026	578.27	70.27
3027	578.28	70.28
3028	578.29	68.29
3029	578.49	61.12
3030	578.38	61.84
3031	578.34	71.67
3032	578.31	79.31

3033	578.89	60.89
3034	578.89	58.89
3035	578.97	60.97
3036	578.73	61.77
3037	578.64	63.83
3038	578.39	63.89
3039	578.39	65.53
3040	578.36	67.06
3041	578.75	65.42
3042	578.31	68.31
3043	578.31	71.7
3044	578.15	89.65
3045	578.17	90.64
3046	578.39	88.39
3047	578.4	84.06
3048	578.55	78.55
3049	578.9	92.65
3050	578.92	92.67
3051	578.3	79.24
3052	578.22	63.22
3053	578.16	70.66
3054	578.14	45.64
3055	625.57	85.57
3056	620.87	78.57
3057	620.3	78
3058	617.82	85.6
3059	613.44	79.94
3060	612.46	82.46
3061	611.69	81.69
3062	611.41	84.12
3063	609.14	75.81
3064	607.41	73.82
3065	605.53	70.03
3066	605.53	71.65
3067	605.54	81.54
3068	602.58	95.58
3069	602.25	102.25
3070	602.01	107.01

3071	601.54	108.54
3072	600.53	110.53
3073	600.29	110.29
3074	599.88	112.88
3075	599.21	96.21
3076	598.91	83.91
3077	594.2	113.2
3078	591.24	111.24
3079	590.05	95.05
3080	588.64	91.14
3081	587.63	89.63
3082	586.24	98.24
3083	583.89	108.89
3084	582.83	103.83
3085	581.81	89.81
3086	580.78	71.78
3087	579.1	61.1
3088	578.92	92.42
3089	588.94	66.11
3090	592.32	67.32
3091	593.35	74.35
3092	593.95	83.95
3093	595.68	90.68
3094	598.41	73.41
3095	601.36	81.36
3096	604.5	89.5
3097	605.59	81.59
3098	604.71	89.71
3099	601.96	81.96
3100	600.52	80.52
3101	597	92
3102	595	85
3103	594.24	75.24
3104	592.85	67.85
3105	591.01	86.01
3106	578.39	50.06
3107	579.08	58.08
3108	579.3	46.8

3109	579.09	64.09
3110	579.06	66.56
3111	579.03	70.03
3112	579.02	74.02
3113	592.46	117.46
3114	597.17	93.17
3115	598.9	68.9
RES528	528	0
RES580	580	2
RES600	600.5	2.5
RES600IN	601	0

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