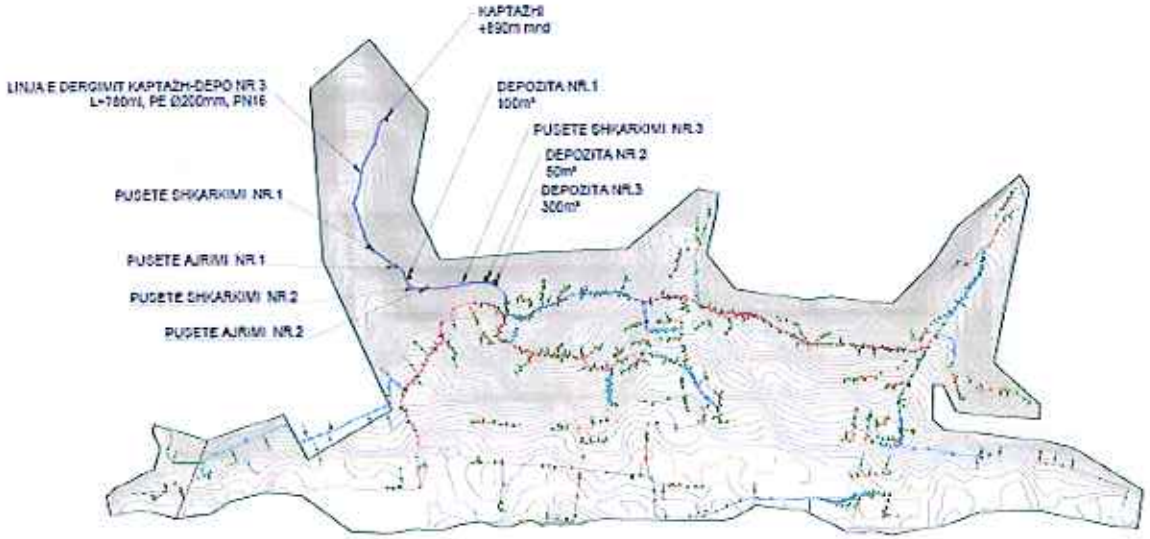
RELACION TEKNIK

"NDERTIMI I UJESJELLESIT UDENISHT- MEMELISHT, POGRADEC"

"UJESJELLESI MEMLISHT"

(FAZA PROJEKT-ZBATIM)



PROJEKTUES	INXHINIER PROJEKTUES	SUBJEKTI POROSITES	Rev
ARENA MK Sh.p.k		**Bashkia Pogradec**	00
	RELACION TEKNIK	Miratuar	
		Nr. fq/Formati /A4 /A3	2020 Tirane
	FSHATI MEMLISHT		

RELACION TEKNIK

"NDERTIMI I UJESJELLESIT UDENISHT- MEMELISHT, POGRADEC"

"UJESJELLESI MEMLISHT"

Contents

1. HYRJE

"**Arena MK "sh.p.k,** eshte kontraktuar nga **Bashkia Pogradec** per ekzekutimin e Kontrates per: "**NDERTIMI I UJESJELLESIT UDENISHT-MEMELISHT, POGRADEC**"

Qellimi i raportit te Projektit eshte nje permbledhje e konkluzioneve te fazes se studimit dhe pershkruan proçesin e zhvillimit te Projektit perfundimtar, detajimin e zgjidhjeve funksionale dhe teknike.

2. QELLIMI I SHERBIMIT

2.1 OBJEKTIVI I PERGJITHSHEM

Qellimi i pergjithshem i projektit **"NDERTIMI I UJESJELLESIT UDENISHT- MEMELISHT, POGRADEC"**, eshte rikonstruksioni rrjetit te brendshem dhe te jashtem te ujesjellesit, duke u bazuar ne normat dhe standartet bashkekohore, per plotesimin e nevojave me uje te pijshem per banoret.

2.2 OBJEKTIVA SPECIFIKE

Objektivi i pergjithshem i projektit eshte analizimi i situates ekzistuese te rrjetit te furnizimit me uje, nga ku si rezultat eshte pare e nvojshme ndertimi i nje rrjeti te ri, sepse rrjeti aktual eshte i amortizuar, duke sjelle humbje te medha te ujit dhe furnizim jo normal te banoreve, rikonstruksioni i depos se ujit, ndertimin e kaptazheve te reja dhe linjave te dergimit deri ne depo, ndertimi I linjes kryesire nga stacioni I pompimit deri ne depo.

Per te arritur objektivin e pergjithshem te projektit ne vijim jane dhene pritshmerite kryesore qe do te arrihen:

- Vleresimi i studimit rrjetit te shperndarjes si dhe procesi I zhvillimit te projektit Inxhinierik
- Perllogaritja e Kostove
- Raporte teknike

3. ANALIZA E GJENDJES EKZISTUESE

3.1 TE DHENAT PER PROJEKTIM DHE GJENDJA EKZISTUESE

1. Popullsia aktuale eshte 2955 banore.
2. Norma per fryme e popullsise te llogaritet 150l/dite per banore sipas normave ne fuqi
3. Materiali I tubacionit te jete HDPE I certifikuar
4. Shtesa natyrore e popullsise te merret 1 %.
5. Perspektiva e ujesjellesit te parashikohet per 25 vjet.

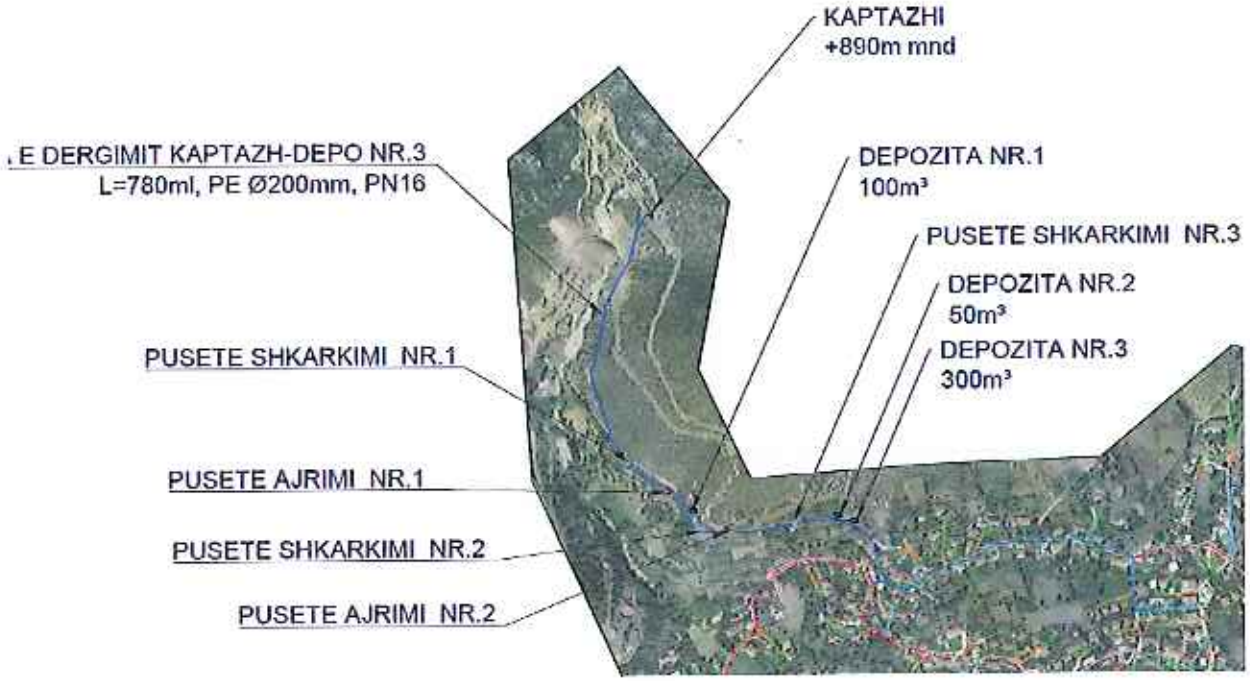
3.2 SITUATA EKZISTUESE

Memëlishti është një fshat në komunën Udënisht në rrethin e Pogradecit dhe ka nje popullsi prej 2955 banoresh. Aktualisht furnizimi me uje kryhet nga burimet natyrore.

Zona ndodhet nen admistrimin e komunes Udenisht Bashkia Pogradec . Burimet e Mmlishtit kane mesatarisht nje prurje prej 8.5-12 l/s. Nga burimet nepermjet tubove uji shkon ne depo dhe nga depoja uji shpendahet tek abonentet. Tubacioni qe lidh burimet me depon e ujit eshte I ndertuar shume vite me pare, si pasoje ka demtime dhe bllokohen nga leshteriku gje qe sjell pasoja ne furnizimin me uje te popullates. Fshati Memëlisht ka nje depo qe sherben per furnizimin e fshatit me uje. Depoja ka vite qe eshte ndertuar dhe duhet bere rikonstruksion I pjesshem.

Fshati Udenisht do te furnizohet nga Burimet qe jane paraqitur ne Kaptazh (+890m mnd) .

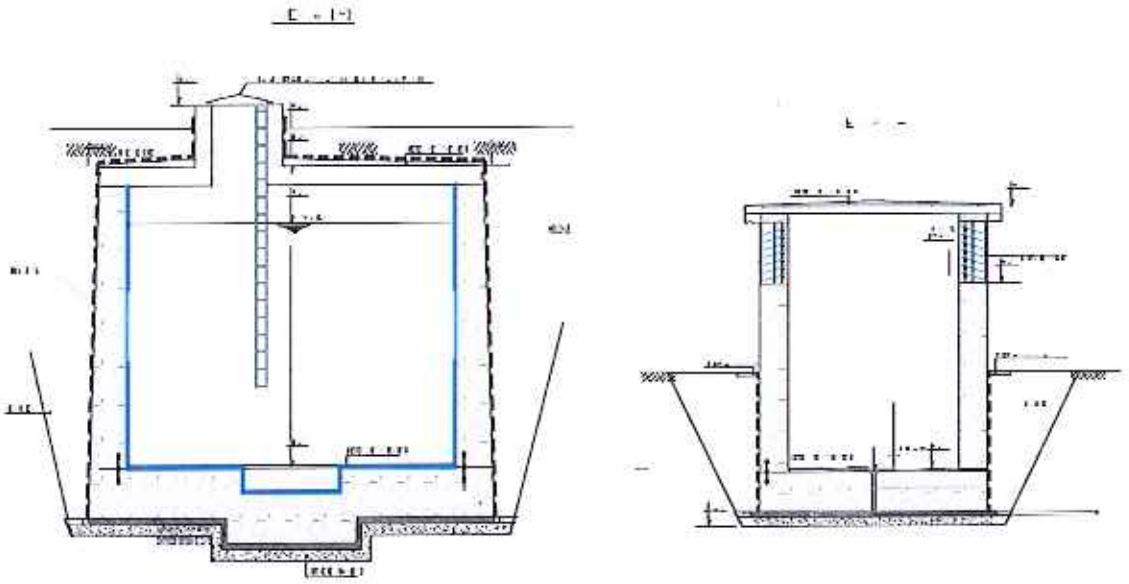
Kaptazhi e con ujin ne depon Nr.1 e cila eshte 100 m3 pastaj ne depoziten Nr.2 e cila eshte 50 m3 dhe m epas ne depoziten nr 3 qe ka nje kapacitet prej 300 m3.



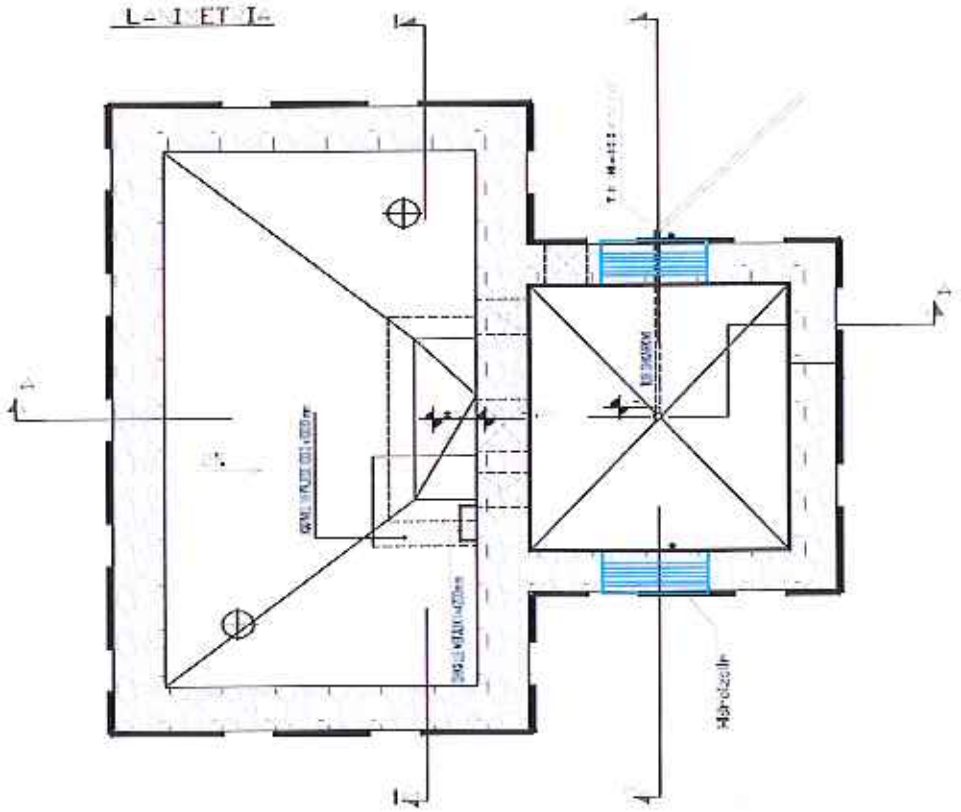
4. ZGJIDHJA TEKNIKE E PROJEKTIT

4.1 LLOGARITJET HIDRAULIKE

Skema e dergimit te ujit deri te depoja e shperndarjes se ujit te pijshem eshte percaktuar duke u nisur nga linja ekzistuese. Ne shume pjese tubacioni I ri I dergimit te ujit te linjes se ujesjellesit do te ndjeke te njejten gjurme te tubacionit ekzistues. Kaptazhet nga ku merret uji jane Kaptazhi nr 1 (+890m mnd) . Ne kete zone do te behet rikonstruksioni I kaptazhit ekzistues, dhe ndertimi I linjes se re te dergimit te ujit qe shkon ne depot e ujesjellesit.



Prerje e Depos se ujit



Tubacioni i cili con ujin nga kaptazhi tc depo nr 1 eshtc Tub PE 200 PN 16 . Ky tubacion ne pjescn me te madhe tc tij trasohet paralclisht me magjistralin kryesor qc del nga burimi.

Mc ane te programit Bentley WaterCAD eshtc bcrc modelimi I rrjetit te brendshcm te fshatit dhc nisur nga topografia si dhe nga kerkesa per ujc c cdo banese sipas normave nc fuqi, jane percaktuar diametrat perkates dukc plotesuar dhc kushtet kufijtc e lejuar te shpejtesive ekonomikc (shih materialin grafik).

Diametrat c tubacioneve jane percaktuar ne baze te llogaritjeve tekniko-ekonomike.

Gjate linjes sc ujesjellesit, per shkat te gjatesisc se madhe tc saj, jane parashikuar disa vepra pergjatc saj: puseta kontrolli, puseta ajrimi, puseta bashkimi, puseta shkarkimi.

Zona do të mbulohet në shërbimin e furnizimit me ujë përmes dy tubacioneve PE PN 16 Dj=75 mm qc vijne nga kaptazhet dhe nga STP.

Llogaritjet hidraulike të rrjetit të ri të ujësjellësit do të bëhen dukc patur të dhenat e detyrës së projektimit si më poshtë :

1. Popullsia aktualc eshte 2955 banore.
2. Norma per fryme e popullsise te llogaritet 150l/dite per banore sipas normavc ne fuqi
3. Materiali I tubacionit tc jete HDPE I certifikuar
4. Shtesa natyrore c popullsise te merret 1 %.
5. Perspektiva e ujesjellesit te parashikohet per 25 vjet.
6. Orari i furnizimit me ujë i zonës është 24h

Llogarisim fillimisht popullsinë pas një periudhc t = 25 vjet do të llogaritet :

Ne kete menyre eshte bërë dimensionimi i segmenteve të rrjetit.

ARENA MK Sh.p.k

PERCAKTIMI I PRURJES KARAKTERISTIKE TE UJESJELLESIT MEMELISHT

PARASHIKIMI I POPULLSISE

Popullsia aktuale	No =	2,955	banor
Perqindja e rritjes	p =	1.0	%
Numri i viteve	n =	25	vite
Popullsia e pritur	Nn = No (1+p)^n =	3,790	banor

1. POPULLSIA

NR. Banoreve	N =	3,790	banor
Norma per banor	n_1^{max} =	150	l/d/banor
Prurja max. ditore	$Q_{max}^{d} = \frac{N * n}{1000}$ =	568.4	m3/dite

2. RESTORANTE (3 cope)

Sip. Totale	S=	300	m2
Norma per klient (25-60 l/d/m2)		40	l/d/m2
Prurja max. ditore		12.0	m3/dite

3. BAR (12 cope)

Sip. Totale	S=		m2
Norma per klient (20-50 l/d/m2)		30	l/d/m2
Prurja max. ditore		-	m3/dite

4. SHKOLLA (1 cope)

NR. Nxenesve	N =		nxenes
Norma per nxenes (20-40 l/d/n)		40	l/d/nxenes
Prurja max. ditore		-	m3/dite

5.	Q.SHENDETESORE (1 cope)			
	NR. Shtreterve	N =		pacient
	Norma per shrat (128 l/d/sh)		128	l/d/sh
	Prurja max. ditore		-	m3/dite
	Σ e prurjeve max ne m3/dite		580	m3/dite
	Humbjet ne rrjetin e ujsjellesit		20.00	%
	Σ e prurjeve max ne m3/dite+ humbjet		697	m3/dite
	Prurja mesatare ditore ne l/s per linjen e dergimit		8.06	l/s

Prova thelbësore në qoftë së rrjeti është dimensionuar saktë është llogaritja e presioneve në nyje të ndryshme të rrjetit. Për të kontrolluar dimensionimin, do të bëjmë një modelim të rrjetit nëpërmjet software WATERCAD.

ID	Label	Elevation (m)	Hydraulic Grade (m)	Pressure (m H2O)
31	J-1	715.92	759.82	44
32	J-2	715.9	759.82	44
34	J-3	751.47	793.99	42
37	J-5	755.53	793.86	38
38	J-6	755.39	793.86	38
40	J-7	721.29	771.23	50
41	J-8	721.35	771.23	50
43	J-9	708.07	759.8	52
44	J-10	707.68	759.8	52
46	J-11	698	727.71	30
47	J-12	698	727.71	30
49	J-13	747.43	793.91	46

50	J-14	747.49	793.91	46
52	J-15	744.62	794.15	49
53	J-16	744.86	794.15	49
55	J-17	698	727.7	30
56	J-18	697	727.7	31
58	J-19	742.98	793.89	51
59	J-20	743.26	793.89	51
61	J-21	748.87	794.22	45
62	J-22	748.92	794.22	45
64	J-23	748.96	793.93	45
65	J-24	749.01	793.93	45
67	J-25	749.05	793.93	45
69	J-26	751.08	793.95	43
70	J-27	751.14	793.95	43
72	J-28	694	748.18	54
73	J-29	694	748.18	54
75	J-30	741.99	794.2	52
76	J-31	741.74	794.2	52
78	J-32	696.6	748.17	51
79	J-33	697	748.17	51
81	J-34	748.92	794.13	45
82	J-35	749.43	794.13	45
84	J-36	746.5	793.9	47
85	J-37	746.2	793.9	48
87	J-38	695.3	748.17	53
88	J-39	696.2	748.17	52
90	J-40	718.74	771.21	52
91	J-41	718.41	771.21	53
93	J-42	731.16	770.72	39
94	J-43	730.71	770.73	40
96	J-44	754.68	793.86	39
98	J-45	697.4	748.54	51
99	J-46	698.1	748.54	50
101	J-47	748.88	793.93	45
103	J-48	721.46	771.21	50
104	J-49	721.24	771.21	50
106	J-50	700	727.69	28
107	J-51	700	727.69	28
109	J-52	712.85	743.01	30

110	J-53	712.65	743.01	30
112	J-54	739.54	794.16	55
113	J-55	741.07	794.16	53
115	J-56	751.81	793.96	42
116	J-57	751.88	793.96	42
118	J-58	729.05	770.73	42
119	J-59	728.4	770.73	42
121	J-60	749.83	793.94	44
122	J-61	750	793.94	44
124	J-62	722.21	771.24	49
125	J-63	722.7	771.24	48
127	J-64	751.93	793.96	42
129	J-65	751.71	793.98	42
130	J-66	751.7	793.99	42
132	J-67	720.28	771.21	51
134	J-68	727.36	771.25	44
135	J-69	728.52	771.25	43
138	J-70	697	748.54	51
140	J-71	751.67	793.96	42
142	J-72	767.41	793.83	26
143	J-73	766.45	793.84	27
145	J-74	757.96	793.85	36
146	J-75	757.54	793.86	36
148	J-76	754.31	794.09	40
149	J-77	754.46	794.09	40
151	J-78	750.39	794.12	44
153	J-79	751.57	793.99	42
155	J-80	723.8	771.21	47
156	J-81	723.23	771.21	48
159	J-82	696.5	748.52	52
160	J-83	696	748.52	52
162	J-84	720.02	771.22	51
163	J-85	720.42	771.22	51
165	J-86	750.88	794.05	43
166	J-87	750.97	794.04	43
168	J-88	698.07	727.69	30
169	J-89	698	727.69	30
171	J-90	750.24	793.94	44
173	J-91	747.17	793.91	47

175	J-92	742.52	794.16	52
177	J-93	726.43	770.73	44
178	J-94	726.45	770.73	44
180	J-95	716.63	759.82	43
183	J-96	751.17	794	43
185	J-97	713.09	759.81	47
186	J-98	712.35	759.81	47
188	J-99	744.22	793.89	50
189	J-100	744.68	793.9	49
191	J-101	748.03	793.91	46
192	J-102	748.19	793.92	46
194	J-103	700	727.7	28
196	J-104	754.88	794.09	39
198	J-105	773.83	793.82	20
199	J-106	772.45	793.82	21
201	J-107	697	727.69	31
203	J-108	724.47	771.21	47
205	J-109	751.92	793.98	42
206	J-110	751.85	793.98	42
208	J-111	735	794.17	59
209	J-112	734.31	794.17	60
211	J-113	747.79	793.88	46
212	J-114	747.06	793.88	47
214	J-115	713.11	771.2	58
216	J-116	730.55	771.25	41
218	J-117	752.81	794.06	41
219	J-118	751.82	794.06	42
221	J-119	749.94	794.01	44
222	J-120	750.43	794	43
224	J-121	716.09	771.2	55
225	J-122	715.04	771.2	56
227	J-123	740.61	793.88	53
228	J-124	739.15	793.88	55
231	J-125	751.98	793.97	42
233	J-126	750.6	793.94	43
236	J-127	702.29	759.78	57
237	J-128	664.64	717.79	53
239	J-129	735	794.17	59
241	J-130	700	727.7	28

243	J-131	696.5	748.54	52
245	J-132	737.72	793.87	56
247	J-133	696.3	748.28	52
248	J-134	697.1	748.28	51
253	J-135	711.72	743.01	31
255	J-136	699.5	727.69	28
257	J-137	749.9	794.02	44
258	J-138	749.84	794.01	44
260	J-139	751.96	793.97	42
262	J-140	693	748.18	55
265	J-141	769.25	793.83	25
267	J-142	714.01	771.2	57
270	J-143	719.16	759.83	41
271	J-144	718.13	759.83	42
274	J-145	714.51	759.81	45
276	J-146	740.7	794.19	53
278	J-147	753.37	794.11	41
279	J-148	753.89	794.1	40
281	J-149	755.53	794.08	38
282	J-150	754.42	794.07	40
285	J-151	748.62	793.92	45
287	J-152	696.8	748.27	51
289	J-153	743.55	794.2	51
291	J-154	762.5	793.84	31
292	J-155	761.77	793.85	32
295	J-156	723.49	771.24	48
296	J-157	724.58	771.25	47
298	J-158	750.48	808.75	58
301	J-159	764.5	793.84	29
303	J-160	693	748.2	55
304	J-161	693.5	748.19	55
308	J-162	691.5	748.19	57
310	J-163	697.2	748.38	51
311	J-164	697	748.38	51
322	J-165	693.4	748.32	55
323	J-166	693	748.31	55
325	J-167	747.17	794.14	47
329	J-168	737.3	794.17	57
332	J-169	737.74	794.18	56

334	J-170	697.8	748.52	51
336	J-171	724.32	759.84	35
337	J-172	721.92	759.84	38
341	J-173	759.25	793.85	35
348	J-174	735.35	793.87	58
352	J-175	749.85	794.03	44
356	J-176	701.69	748.6	47
357	J-177	700.2	748.59	48
360	J-178	696.3	748.26	52
362	J-179	701.44	717.78	16
364	J-180	697.2	748.47	51
365	J-181	698	748.46	50
368	J-182	735.31	770.75	35
372	J-183	709.8	743	33
375	J-184	739.91	770.76	31
377	J-185	700.43	717.78	17
381	J-186	693.8	748.33	54
384	J-187	695.6	748.49	53
385	J-188	696.5	748.48	52
391	J-189	775.95	793.81	18
396	J-190	699.95	717.76	18
397	J-191	700.47	717.75	17
399	J-192	729.04	759.85	31
401	J-193	730	748.66	19
402	J-194	717.81	748.67	31
404	J-195	697.4	748.4	51
407	J-196	700.81	717.74	17
410	J-197	694.9	748.36	53
413	J-198	693	748.3	55
426	J-199	681.15	717.73	37
433	J-203	746.59	788.63	42
434	J-204	746.6	788.63	42
436	J-205	778.41	808.87	30
437	J-206	778.31	808.87	31
439	J-207	781.83	808.83	27
440	J-208	781.91	808.83	27
442	J-209	787.44	808.87	21
443	J-210	787.24	808.87	22
445	J-211	790.03	808.85	19

446	J-212	790.09	808.85	19
448	J-213	780.46	808.88	28
449	J-214	780.99	808.89	28
451	J-215	762.34	808.77	46
452	J-216	762.84	808.77	46
454	J-217	717.31	748.67	31
456	J-218	736.54	788.59	52
457	J-219	736.78	788.6	52
459	J-220	778.37	808.81	30
460	J-221	778.39	808.81	30
462	J-222	786.62	808.87	22
463	J-223	786.2	808.87	23
465	J-224	768.55	808.78	40
466	J-225	769.31	808.78	39
468	J-226	724.85	772.96	48
469	J-227	724.18	772.95	49
471	J-228	735.88	772.98	37
472	J-229	735.26	772.98	38
474	J-230	787	808.91	22
475	J-231	788	808.92	21
477	J-232	779.62	808.88	29
478	J-233	779.24	808.88	30
480	J-234	771.52	808.86	37
481	J-235	772.29	808.86	36
483	J-236	750.2	788.66	38
484	J-237	750.61	788.66	38
486	J-238	779.94	808.88	29
488	J-239	785.63	808.88	23
489	J-240	785.17	808.88	24
492	J-241	758.42	808.76	50
493	J-242	759.52	808.76	49
495	J-243	752.7	788.68	36
496	J-244	753.28	788.68	35
498	J-245	725.71	771.25	45
500	J-246	748.83	788.65	40
501	J-247	749.37	788.65	39
503	J-248	782.05	808.89	27
505	J-249	749.73	788.66	39
507	J-250	751.47	808.75	57

510	J-251	774.79	808.87	34
511	J-252	775.76	808.87	33
513	J-253	732.61	771.27	39
514	J-254	733.16	771.27	38
516	J-255	757.1	788.71	32
517	J-256	757.46	788.71	31
519	J-257	754.66	788.69	34
520	J-258	755.56	788.7	33
522	J-259	741.68	788.61	47
523	J-260	742.73	788.62	46
525	J-261	736.12	771.28	35
527	J-262	763.02	808.83	46
528	J-263	764.18	808.84	45
530	J-264	723.48	772.95	49
532	J-265	788.38	808.86	20
534	J-266	784.57	808.88	24
536	J-267	751.52	788.67	37
538	J-268	769.29	808.85	39
539	J-269	770.19	808.85	39
541	J-270	727.07	771.25	44
544	J-271	744.08	788.62	44
547	J-272	789.14	808.86	20
550	J-273	712.01	748.65	37
551	J-274	710.3	748.64	38
555	J-275	736.59	772.99	36
558	J-276	722.21	772.95	51
560	J-277	777.44	808.8	31
562	J-278	788.85	808.85	20
564	J-279	738.46	788.6	50
567	J-280	758.28	788.72	30
569	J-281	784	808.9	25
571	J-282	760.33	808.83	48
574	J-283	772.42	808.79	36
575	J-284	774.88	808.79	34
577	J-285	715.63	748.67	33
579	J-286	766.56	808.84	42
581	J-287	778.6	808.88	30
583	J-288	765.2	808.77	43
585	J-289	705.7	748.62	43

586	J-290	703.88	748.62	45
588	J-291	785.58	808.84	23
591	J-292	731.14	771.26	40
594	J-293	740.5	773	32
595	J-294	738.91	772.99	34
599	J-295	705.5	748.63	43
601	J-296	747.43	788.64	41
606	J-297	732.39	772.97	41
612	J-298	779.33	808.82	29
616	J-299	796	808.94	13
618	J-300	777.78	808.86	31
619	J-301	774.38	808.85	34
626	J-302	729.44	772.96	43
628	J-303	770.73	808.84	38
637	J-304	751.97	808.81	57
641	J-305	710.2	748.4	38
642	J-306	708.4	748.4	40
644	J-307	735.84	783.16	47
645	J-308	735.31	783.16	48
647	J-309	746.71	794.12	47
648	J-310	746.85	794.12	47
650	J-311	711.9	742.09	30
651	J-312	711.4	742.09	31
653	J-313	718	759.81	42
654	J-314	717.5	759.81	42
656	J-315	726.41	770.73	44
658	J-316	764.5	808.85	44
659	J-317	765	808.85	44
661	J-318	746.28	793.84	47
662	J-319	746.88	793.84	47
664	J-320	710.4	748.4	38
666	J-321	752.89	788.68	36
668	J-322	733.66	782.63	49
669	J-323	734.01	782.63	49
671	J-324	705.5	717.74	12
672	J-325	706	717.74	12
674	J-326	706.2	751.45	45
675	J-327	706.35	751.45	45
677	J-328	729.02	770.73	42

679	J-329	723.09	771.24	48
681	J-330	741.55	794.16	53
683	J-331	753	788.67	36
684	J-332	754	788.67	35
686	J-333	761	808.85	48
687	J-334	761.5	808.85	47
689	J-335	751.19	793.97	43
691	J-336	748.43	793.85	45
692	J-337	749.2	793.85	45
694	J-338	735.5	770.75	35
695	J-339	735	770.75	36
697	J-340	719.78	771.21	51
699	J-341	742.5	770.75	28
700	J-342	743	770.75	28
702	J-343	736.64	770.75	34
703	J-344	734.6	770.75	36
705	J-345	733.18	783.16	50
706	J-346	732.53	783.16	51
708	J-347	764.5	808.85	44
709	J-348	765	808.85	44
711	J-349	713.73	771.2	57
713	J-350	732.5	770.74	38
714	J-351	732	770.74	39
716	J-352	703	748.43	45
717	J-353	702.5	748.43	46
719	J-354	734.33	770.75	36
720	J-355	734.3	770.75	36
722	J-356	700.5	748.43	48
723	J-357	700	748.43	48
725	J-358	750.88	793.98	43
727	J-359	722.68	771.24	48
728	J-360	723.05	771.24	48
730	J-361	718.39	771.24	53
731	J-362	718.03	771.24	53
733	J-363	732.5	770.74	38
734	J-364	732.4	770.74	38
736	J-365	730.5	770.72	40
738	J-366	750.3	793.95	44
740	J-367	738.5	771.24	33

741	J-368	738	771.24	33
743	J-369	754.9	788.67	34
744	J-370	754.4	788.67	34
746	J-371	750.01	793.94	44
748	J-372	737.48	782.66	45
749	J-373	737.83	782.66	45
751	J-374	740.3	770.76	30
752	J-375	740	770.76	31
754	J-376	717.14	751.45	34
755	J-377	716.65	751.45	35
757	J-378	730.5	759.85	29
758	J-379	730	759.85	30
760	J-380	750.8	793.97	43
762	J-381	712.92	771.2	58
764	J-382	723.77	771.21	47
766	J-383	693.8	748.44	55
767	J-384	693.5	748.44	55
769	J-385	707.4	751.45	44
770	J-386	707.4	751.45	44
772	J-387	715.53	751.45	36
773	J-388	715.39	751.45	36
775	J-389	700.4	742.08	42
776	J-390	700.4	742.08	42
778	J-391	750.24	788.67	38
780	J-392	750.72	793.98	43
782	J-393	740.5	770.75	30
783	J-394	741	770.75	30
785	J-395	710.65	742.08	31
786	J-396	710.6	742.08	31
788	J-397	760.67	794.03	33
789	J-398	759.6	794.03	34
791	J-399	750.2	793.85	44
792	J-400	749.13	793.85	45
794	J-401	702.2	748.37	46
795	J-402	702.7	748.37	46
797	J-403	705.5	748.44	43
798	J-404	705	748.44	43
800	J-405	700.9	748.37	47
801	J-406	700.3	748.37	48

803	J-407	710.85	748.45	38
804	J-408	710.8	748.45	38
806	J-409	718.67	771.24	52
808	J-410	745.53	793.9	48
810	J-411	758.54	794.03	35
811	J-412	759.81	794.03	34
813	J-413	773.33	793.82	20
815	J-414	780	794.11	14
816	J-415	780.3	794.11	14
818	J-416	786.5	808.91	22
820	J-417	719.41	771.22	52
822	J-418	747.27	788.64	41
824	J-419	733.5	770.74	37
825	J-420	733.2	770.74	37
827	J-421	749.2	794.01	45
829	J-422	721.8	771.23	49
831	J-423	784.74	808.88	24
833	J-424	741.16	794.19	53
835	J-425	735	770.74	36
836	J-426	734	770.74	37
838	J-427	722.77	771.24	48
840	J-428	719	759.81	41
842	J-429	732.5	770.74	38
843	J-430	733	770.74	38
845	J-431	706	717.74	12
846	J-432	705	717.74	13
848	J-433	739.98	794.16	54
850	J-434	757.95	794.04	36
851	J-435	757.81	794.04	36
853	J-436	741.18	794.2	53
855	J-437	754.49	788.71	34
857	J-438	701.78	742.08	40
858	J-439	701.8	742.08	40
860	J-440	737.5	771.24	34
861	J-441	737	771.24	34
863	J-442	710	717.74	8
865	J-443	755.19	794.02	39
866	J-444	753.96	794.02	40
868	J-445	750.53	793.98	43

870	J-446	717.35	771.2	54
871	J-447	717.28	771.21	54
873	J-448	745.46	793.84	48
874	J-449	746.97	793.84	47
876	J-450	745.21	793.89	49
878	J-451	760	808.85	49
879	J-452	762.1	808.85	47
881	J-453	780.96	808.89	28
883	J-454	710.43	742.08	32
884	J-455	710.4	742.08	32
886	J-456	761.06	794.03	33
887	J-457	759.57	794.03	34
889	J-458	747.9	793.93	46
891	J-459	787.05	808.87	22
893	J-460	702.3	748.44	46
894	J-461	702.8	748.44	46
896	J-462	747.5	788.63	41
897	J-463	747	788.63	42
899	J-464	705.11	751.45	46
900	J-465	705.36	751.45	46
902	J-466	752.36	794.06	42
904	J-467	720.9	771.24	50
905	J-468	720.59	771.24	51
907	J-469	738.99	793.88	55
909	J-470	749.65	793.92	44
911	J-471	754.02	788.7	35
913	J-472	695.4	748.36	53
915	J-473	729.5	759.84	30
916	J-474	729	759.85	31
918	J-475	738.87	772.99	34
919	J-476	739.78	772.99	33
921	J-477	749.12	794.02	45
923	J-478	697.5	748.28	51
925	J-479	703.5	748.44	45
926	J-480	703	748.44	45
928	J-481	716.98	771.2	54
929	J-482	716.9	771.2	54
931	J-483	758	788.67	31
932	J-484	759	788.67	30

934	J-485	743.5	770.75	27
935	J-486	744	770.75	27
937	J-487	770.5	808.86	38
939	J-488	742.3	783.16	41
940	J-489	742.8	783.16	40
942	J-490	783.4	793.8	10
943	J-491	782.28	793.8	12
945	J-492	718.37	759.83	41
947	J-493	758.25	794.03	36
948	J-494	759.62	794.03	34
950	J-495	695	727.68	33
951	J-496	695	727.68	33
953	J-497	741.03	782.66	42
954	J-498	741.15	782.66	41
956	J-499	750.22	793.84	44
957	J-500	748.78	793.85	45
959	J-501	696.7	748.47	52
961	J-502	711.77	751.45	40
962	J-503	711.87	751.45	40
964	J-504	767.5	808.83	41
965	J-505	767.3	808.83	41
967	J-506	713.3	771.19	58
968	J-507	713.72	771.19	57
970	J-508	694.8	748.46	54
971	J-509	695.3	748.46	53
973	J-510	754.16	788.72	34
974	J-511	755.79	788.72	33
976	J-512	704.4	748.44	44
977	J-513	703.8	748.44	45
979	J-514	753.17	793.96	41
981	J-515	747.49	788.63	41
982	J-516	747.49	788.63	41
984	J-517	750.24	793.99	44
986	J-518	692.5	748.2	56
988	J-519	695.1	748.49	53
990	J-520	696.3	748.54	52
992	J-521	715.29	771.2	56
994	J-522	778.58	808.88	30
996	J-523	750.59	793.96	43

998	J-524	698.4	748.37	50
999	J-525	697.8	748.37	50
1001	J-526	750.55	793.96	43
1003	J-527	697.5	748.54	51
1005	J-528	696.5	748.17	52
1007	J-529	712.5	752.93	40
1008	J-530	711.29	752.93	42
1010	J-531	712.35	743.01	31
1012	J-532	718	759.81	42
1014	J-533	718.84	771.24	52
1015	J-534	718.29	771.24	53
1017	J-535	735.07	793.86	59
1019	J-536	750.99	794.06	43
1021	J-537	776.99	793.81	17
1022	J-538	776.1	793.81	18
1024	J-539	715.8	771.23	55
1025	J-540	715.22	771.23	56
1027	J-541	767	808.83	42
1029	J-542	698.4	748.36	50
1030	J-543	698.9	748.36	49
1032	J-544	717.14	771.24	54
1034	J-545	759.23	793.83	35
1035	J-546	760.57	793.83	33
1037	J-547	780.36	808.88	28
1039	J-548	751.88	794.12	42
1040	J-549	749.88	794.12	44
1042	J-550	716.28	771.2	55
1044	J-551	693	748.19	55
1046	J-552	773.05	793.82	21
1048	J-553	698.5	748.37	50
1049	J-554	698	748.37	50
1051	J-555	715	748.41	33
1052	J-556	715.3	748.42	33
1054	J-557	756.42	793.85	37
1055	J-558	755.56	793.85	38
1057	J-559	741.3	783.16	42
1058	J-560	741.8	783.16	41
1060	J-561	701.1	742.08	41
1061	J-562	701	742.08	41

1063	J-563	705.6	751.45	46
1064	J-564	706.3	751.45	45
1066	J-565	725.85	771.25	45
1068	J-566	697	727.68	31
1069	J-567	697	727.69	31
1071	J-568	749.47	794.04	44
1073	J-569	731.87	782.63	51
1074	J-570	732.68	782.63	50
1076	J-571	790.18	808.86	19
1078	J-572	719.06	751.44	32
1079	J-573	718.8	751.45	33
1081	J-574	788.25	808.87	21
1083	J-575	727.5	759.84	32
1084	J-576	728	759.84	32
1086	J-577	759.39	793.84	34
1087	J-578	760.67	793.84	33
1089	J-579	716.37	771.23	55
1090	J-580	715.73	771.23	55
1092	J-581	755.79	793.85	38
1093	J-582	754.73	793.85	39
1095	J-583	752.17	794.1	42
1097	J-584	748.49	788.65	40
1099	J-585	698.8	748.35	49
1100	J-586	699.3	748.35	49
1102	J-587	729.27	771.26	42
1104	J-588	695	748.57	53
1105	J-589	694.7	748.57	54
1107	J-590	734.3	770.75	36
1108	J-591	734.1	770.75	37
1110	J-592	736.76	794.18	57
1112	J-593	749.83	794	44
1114	J-594	691	748.19	57
1116	J-595	787	808.88	22
1118	J-596	740.27	793.88	54
1120	J-597	711.53	743.01	31
1122	J-598	752.72	793.95	41
1124	J-599	722.57	772.95	50
1126	J-600	751.98	788.72	37
1127	J-601	753.98	788.72	35

1129	J-602	754.09	793.98	40
1130	J-603	753.56	793.98	40
1132	J-604	768.67	793.83	25
1134	J-605	748.09	794.03	46
1136	J-606	724.5	771.24	47
1137	J-607	725	771.24	46
1139	J-608	780.27	808.83	28
1141	J-609	698.2	748.59	50
1142	J-610	698	748.59	50
1144	J-611	739.72	788.6	49
1146	J-612	696	748.48	52
1148	J-613	764.62	793.84	29
1150	J-614	727.33	771.25	44
1152	J-615	735	771.24	36
1153	J-616	734	771.24	37
1155	J-617	756.7	793.98	37
1156	J-618	755.85	793.98	38
1158	J-619	730.1	770.73	41
1159	J-620	730.7	770.73	40
1161	J-621	742.7	793.89	51
1163	J-622	749.28	793.91	45
1165	J-623	753.32	793.98	41
1166	J-624	752.78	793.98	41
1168	J-625	727.63	771.25	44
1169	J-626	729	771.26	42
1171	J-627	766.83	793.83	27
1173	J-628	751.8	793.85	42
1174	J-629	753.18	793.85	41
1176	J-630	778	808.84	31
1177	J-631	777	808.84	32
1179	J-632	767.01	808.78	42
1181	J-633	695	748.17	53
1183	J-634	710.63	748.64	38
1185	J-635	705	748.62	44
1187	J-636	697.3	748.27	51
1189	J-637	709.68	743	33
1191	J-638	756.9	793.86	37
1192	J-639	755.65	793.86	38
1194	J-640	709.81	751.45	42

1195	J-641	709.62	751.45	42
1197	J-642	716.96	748.67	32
1199	J-643	715.98	748.67	33
1201	J-644	753.2	794.09	41
1203	J-645	787.06	793.8	7
1204	J-646	785.34	793.8	8
1206	J-647	701.41	748.57	47
1207	J-648	702.14	748.57	46
1209	J-649	752.09	793.94	42
1211	J-650	736.09	782.64	46
1212	J-651	734.92	782.65	48
1214	J-652	768.6	808.83	40
1215	J-653	768.1	808.83	41
1217	J-654	699.5	748.45	49
1218	J-655	700	748.45	48
1220	J-656	757.48	793.83	36
1221	J-657	758.65	793.83	35
1223	J-658	769.5	808.84	39
1224	J-659	770	808.84	39
1226	J-660	754	788.67	35
1227	J-661	756	788.68	33
1229	J-662	784.5	808.9	24
1231	J-663	757.33	794.03	37
1232	J-664	759.6	794.03	34
1234	J-665	766.2	793.83	28
1236	J-666	700.6	748.45	48
1237	J-667	700.1	748.45	48
1239	J-668	695.1	748.56	53
1240	J-669	694.7	748.56	54
1242	J-670	735.54	788.59	53
1244	J-671	748.7	793.94	45
1246	J-672	702.22	748.57	46
1247	J-673	701.75	748.57	47
1249	J-674	771.54	808.78	37
1251	J-675	748.8	788.63	40
1252	J-676	748.67	788.63	40
1254	J-677	735.5	771.27	36
1255	J-678	735	771.27	36
1257	J-679	723.25	771.21	48

1259	J-680	788.31	793.79	5
1260	J-681	787.76	793.79	6
1262	J-682	716.35	771.24	55
1264	J-683	748.14	793.9	46
1266	J-684	732.03	771.27	39
1267	J-685	733.18	771.27	38
1269	J-686	694.7	748.32	54
1271	J-687	751.5	788.66	37
1273	J-688	745.89	793.91	48
1275	J-689	734.7	770.75	36
1276	J-690	734.8	770.75	36
1278	J-691	763	808.85	46
1279	J-692	761.5	808.85	47
1281	J-693	719.4	771.23	52
1283	J-694	747.75	793.84	46
1284	J-695	746.19	793.84	48
1286	J-696	754.36	793.8	39
1287	J-697	755.67	793.8	38
1289	J-698	770.8	808.83	38
1290	J-699	770.3	808.83	38
1292	J-700	749.04	793.9	45
1294	J-701	728.5	770.72	42
1295	J-702	729	770.72	42
1297	J-703	756.81	793.86	37
1298	J-704	755.46	793.86	38
1300	J-705	753.09	794.07	41
1302	J-706	714.5	748.42	34
1303	J-707	714	748.42	34
1305	J-708	751.72	793.93	42
1307	J-709	736.53	772.96	36
1308	J-710	734.87	772.96	38
1310	J-711	792.45	793.78	1
1311	J-712	792.66	793.78	1
1313	J-713	775.14	808.86	34
1315	J-714	693	727.68	35
1316	J-715	693	727.68	35
1318	J-716	689	727.68	39
1319	J-717	689	727.68	39
1321	J-718	761.65	808.76	47

1323	J-719	711.5	759.8	48
1324	J-720	711	759.8	49
1326	J-721	697.5	727.69	30
1328	J-722	724.93	772.95	48
1330	J-723	702.36	748.56	46
1331	J-724	702.05	748.56	46
1333	J-725	726.43	770.72	44
1334	J-726	726.92	770.72	44
1336	J-727	713.23	759.77	46
1337	J-728	713.4	759.78	46
1339	J-729	779.06	808.88	30
1341	J-730	749.93	793.84	44
1342	J-731	751.53	793.84	42
1344	J-732	733.25	782.64	49
1345	J-733	734.29	782.64	48
1347	J-734	730.31	771.27	41
1349	J-735	727.5	771.24	44
1350	J-736	727	771.24	44
1352	J-737	698.5	727.69	29
1354	J-738	750.98	793.92	43
1356	J-739	754.16	793.85	40
1357	J-740	755.61	793.86	38
1359	J-741	749.77	793.84	44
1360	J-742	751.52	793.84	42
1362	J-743	717.4	759.83	42
1363	J-744	718	759.83	42
1365	J-745	742.77	794.2	51
1367	J-746	745	788.62	44
1368	J-747	746.6	788.63	42
1370	J-748	735.5	771.24	36
1371	J-749	736	771.24	35
1373	J-750	747.36	793.92	46
1375	J-751	729.4	770.72	41
1376	J-752	730	770.72	41
1378	J-753	705.78	748.62	43
1380	J-754	699.5	727.69	28
1382	J-755	713.52	759.81	46
1383	J-756	713.09	759.81	47
1385	J-757	754.81	793.85	39

1387	J-758	702.3	742.08	40
1388	J-759	702	742.08	40
1390	J-760	777.83	808.82	31
1392	J-761	711.8	759.8	48
1393	J-762	711.35	759.8	48
1395	J-763	738	771.27	33
1396	J-764	737.8	771.27	33
1398	J-765	753.53	794.08	40
1400	J-766	704.07	748.56	44
1401	J-767	704.57	748.56	44
1403	J-768	779.14	808.87	30
1405	J-769	772.88	808.86	36
1406	J-770	771.26	808.86	38
1408	J-771	760.7	794.13	33
1409	J-772	760.2	794.13	34
1411	J-773	748.66	794.12	45
1412	J-774	747.51	794.12	47
1414	J-775	746.39	793.91	47
1416	J-776	724.32	771.25	47
1417	J-777	725.44	771.25	46
1419	J-778	714.3	759.82	45
1420	J-779	714.8	759.82	45
1422	J-780	731	770.74	40
1423	J-781	732.2	770.74	38
1425	J-782	715.51	771.2	56
1426	J-783	715.01	771.2	56
1428	J-784	694.9	748.49	53
1429	J-785	695.3	748.49	53
1431	J-786	737.88	782.65	45
1432	J-787	736.55	782.65	46
1434	J-788	711.85	771.18	59
1435	J-789	712.15	771.19	59
1437	J-790	742.1	783.16	41
1438	J-791	741.5	783.16	42
1440	J-792	745.68	794.14	48
1441	J-793	747.27	794.14	47
1443	J-794	763.67	808.83	45
1445	J-795	789.36	793.79	4
1446	J-796	791.09	793.79	3

1448	J-797	770.17	808.79	39
1450	J-798	806.58	808.83	2
1451	J-799	804.89	808.83	4
1453	J-800	770.5	808.84	38
1454	J-801	770	808.84	39
1456	J-802	735.51	772.98	37
1458	J-803	796.5	808.82	12
1459	J-804	796	808.82	13
1461	J-805	698.8	748.26	49
1463	J-806	795	808.83	14
1464	J-807	783.15	808.83	26
1466	J-808	729.5	771.23	42
1467	J-809	729	771.24	42
1469	J-810	767.41	808.77	41
1471	J-811	735.1	772.96	38
1473	J-812	739.76	788.62	49
1475	J-813	757.38	788.72	31
1476	J-814	754.7	788.72	34
1478	J-815	697	748.37	51
1479	J-816	697.5	748.37	51
1481	J-817	714.7	759.82	45
1482	J-818	715	759.82	45
1484	J-819	791	808.93	18
1485	J-820	792	808.93	17
1487	J-821	748.1	794.14	46
1488	J-822	747.79	794.14	46
1490	J-823	715.65	759.82	44
1492	J-824	705.5	748.4	43
1494	J-825	698.6	748.53	50
1496	J-826	712	717.74	6
1498	J-827	719.34	771.21	52
1500	J-828	700	727.69	28
1502	J-829	748	788.63	41
1503	J-830	747	788.63	42
1505	J-831	714.31	759.81	45
1507	J-832	748.51	794.11	46
1508	J-833	748.71	794.11	45
1510	J-834	746.14	794.13	48
1512	J-835	724.78	771.2	46

1514	J-836	734.15	794.17	60
1516	J-837	722	771.21	49
1518	J-838	789	808.92	20
1520	J-839	795	808.93	14
1521	J-840	794	808.93	15
1523	J-841	735.87	771.27	35
1525	J-842	793.5	808.93	15
1526	J-843	793	808.93	16
1528	J-844	741.8	783.16	41
1529	J-845	740.8	783.16	42
1531	J-846	767.78	808.85	41
1533	J-847	776.25	808.86	33
1535	J-848	720.44	759.78	39
1536	J-849	710.74	759.78	49
1538	J-850	794.5	808.92	14
1539	J-851	794	808.93	15
1541	J-852	761.18	794.03	33
1542	J-853	759.03	794.04	35
1544	J-854	735.6	772.98	37
1546	J-855	741.78	794.15	52
1547	J-856	742.88	794.16	51
1549	J-857	746	788.62	43
1550	J-858	744.3	788.62	44
1553	J-859	697.1	748.52	51
1555	J-860	782.8	793.8	11
1556	J-861	782.35	793.8	11
1558	J-862	787	808.86	22
1560	J-863	713.5	759.8	46
1561	J-864	713.09	759.8	47
1563	J-865	693.6	748.3	55
1565	J-866	746.87	793.85	47
1566	J-867	750.29	793.85	43
1568	J-868	791.67	793.79	2
1569	J-869	790.49	793.79	3
1571	J-870	698.3	748.52	50
1573	J-871	756.71	808.76	52
1575	J-872	779.21	808.87	30
1577	J-873	703.5	742.99	39
1578	J-874	703	742.99	40

1580	J-875	786.13	808.87	23
1582	J-876	748.58	794	45
1584	J-877	711	759.8	49
1585	J-878	710.33	759.8	49
1587	J-879	698	727.7	30
1589	J-880	708.56	748.14	40
1590	J-881	708.25	748.15	40
1592	J-882	729.41	772.96	43
1594	J-883	733.19	782.64	49
1595	J-884	734.82	782.64	48
1597	J-885	770	808.85	39
1599	J-886	745.56	794.12	48
1600	J-887	749.54	794.12	44
1602	J-888	752.13	794.22	42
1604	J-889	737	770.72	34
1605	J-890	735	770.72	36
1607	J-891	793	808.82	16
1608	J-892	792.81	808.83	16
1610	J-893	765.1	808.83	44
1612	J-894	706.35	748.63	42
1614	J-895	732.27	782.63	50
1615	J-896	733.75	782.63	49
1617	J-897	699.99	771.19	71
1618	J-898	720.75	771.19	50
1620	J-899	796	808.82	13
1621	J-900	795.5	808.82	13
1623	J-901	701	727.69	27
1625	J-902	746.13	793.86	48
1626	J-903	750.64	793.87	43
1628	J-904	716	759.81	44
1630	J-905	709.5	748.14	39
1631	J-906	709	748.14	39
1633	J-907	753.16	793.8	41
1634	J-908	755.63	793.8	38
1636	J-909	790	808.92	19
1637	J-910	791	808.93	18
1639	J-911	784.95	808.87	24
1643	J-912	700.5	727.69	27
1645	J-913	713.4	759.8	46

1646	J-914	713.09	759.8	47
1648	J-915	749.45	808.75	59
1650	J-916	757.4	793.83	36
1651	J-917	759.39	793.83	34
1653	J-918	701.9	717.78	16
1655	J-919	787.61	808.85	21
1657	J-920	785.58	808.86	23
1659	J-921	701	727.7	27
1661	J-922	745.7	793.88	48
1663	J-923	716.06	759.82	44
1665	J-924	732	759.85	28
1666	J-925	729.32	759.85	30
1668	J-926	739.5	771.27	32
1669	J-927	738.5	771.27	33
1671	J-928	740	770.71	31
1672	J-929	737	770.71	34
1674	J-930	730.27	771.24	41
1676	J-931	710	759.79	50
1677	J-932	709.47	759.79	50
1679	J-933	714.39	759.77	45
1680	J-934	714.44	759.77	45
1682	J-935	761.6	794.13	32
1683	J-936	761.1	794.13	33
1685	J-937	797.42	808.84	11
1686	J-938	795.74	808.84	13
1688	J-939	763.62	793.84	30
1690	J-940	720.94	771.19	50
1692	J-941	757.3	794.12	37
1693	J-942	756.8	794.13	37
1695	J-943	700	748.46	48
1696	J-944	702	748.45	46
1698	J-945	772.32	808.85	36
1700	J-946	772.42	808.79	36
1702	J-947	760.25	808.83	48
1704	J-948	754.01	794.11	40
1706	J-949	740	770.71	31
1707	J-950	739	770.71	32
1709	J-951	793.76	808.84	15
1710	J-952	792.39	808.84	16

1712	J-953	785.7	793.79	8
1713	J-954	783.12	793.8	11
1716	J-955	751.11	794.12	43
1718	J-956	727	759.85	33
1719	J-957	729	759.85	31
1721	J-958	713.8	759.8	46
1722	J-959	713.09	759.81	47
1724	J-960	739.64	773	33
1726	J-961	741	772.99	32
1727	J-962	739.5	772.99	33
1729	J-963	786.17	793.8	8
1730	J-964	785.7	793.8	8
1732	J-965	715.5	759.77	44
1733	J-966	715.38	759.77	44
1735	J-967	715	759.82	45
1736	J-968	715.5	759.82	44
1738	J-969	746	794.22	48
1740	J-970	721	759.76	39
1741	J-971	720	759.77	40
1743	J-972	711.31	748.65	37
1745	J-973	749.5	788.65	39
1747	J-974	740	771.27	31
1748	J-975	739	771.27	32
1750	J-976	718.56	771.21	53
1751	J-977	718	771.21	53
1753	J-978	703	748.43	45
1754	J-979	702.3	748.43	46
1756	J-980	714.2	759.82	46
1757	J-981	714.9	759.82	45
1759	J-982	761.87	794.13	32
1760	J-983	760.77	794.13	33
1762	J-984	713	771.23	58
1764	J-985	758.1	793.85	36
1766	J-986	761	788.7	28
1768	J-987	698.5	748.42	50
1770	J-988	751.76	794.08	42
1772	J-989	747	788.71	42
1773	J-990	749.23	788.71	39
1775	J-991	734	794.17	60

1777	J-992	693.5	748.43	55
1778	J-993	693	748.44	55
1780	J-994	690	748.18	58
1782	J-995	743	788.61	46
1784	J-996	765	808.77	44
1786	J-997	749.7	794.14	44
1788	J-998	696	727.7	32
1790	J-999	708	748.15	40
1791	J-1000	709	748.15	39
1793	J-1001	764.5	793.82	29
1794	J-1002	758.9	793.83	35
1796	J-1003	703.5	748.34	45
1797	J-1004	704	748.35	44
1799	J-1005	731.5	771.26	40
1800	J-1006	730.98	771.26	40
1802	J-1007	741.3	772.98	32
1804	J-1008	692	748.42	56
1805	J-1009	691.2	748.42	57
1807	J-1010	750	788.66	39
1809	J-1011	710.6	748.43	38
1811	J-1012	725	771.24	46
1812	J-1013	726	771.24	45
1814	J-1014	695.3	748.58	53
1815	J-1015	694.8	748.59	54
1817	J-1016	775	808.8	34
1819	J-1017	752.33	793.84	41
1820	J-1018	751.8	793.84	42
1822	J-1019	699.5	748.45	49
1824	J-1020	776	808.76	33
1825	J-1021	780	808.76	29
1827	J-1022	728.3	771.25	43
1828	J-1023	727.45	771.25	44
1830	J-1024	762.92	793.84	31
1832	J-1025	738.25	793.87	56
1834	J-1026	750.41	788.63	38
1836	J-1027	706	752.9	47
1837	J-1028	705	752.91	48
1839	J-1029	761	808.85	48
1841	J-1030	728	771.24	43

1842	J-1031	725.09	771.25	46
1844	J-1032	696.7	748.4	52
1846	J-1033	720.97	771.19	50
1848	J-1034	710	748.42	38
1849	J-1035	709.1	748.43	39
1851	J-1036	724	771.25	47
1852	J-1037	723.53	771.25	48
1854	J-1038	708.92	759.78	51
1855	J-1039	709.06	759.77	51
1857	J-1040	764.6	808.85	44
1859	J-1041	722	771.22	49
1861	J-1042	703.8	748.43	45
1862	J-1043	703.1	748.43	45
1864	J-1044	791	808.93	18
1865	J-1045	796	808.93	13
1867	J-1046	772	808.87	37
1869	J-1047	756.82	793.86	37
1871	J-1048	706	752.9	47
1872	J-1049	706.5	752.9	46
1874	J-1050	706.5	748.44	42
1875	J-1051	704	748.44	44
1877	J-1052	760	788.65	29
1879	J-1053	744.2	772.99	29
1880	J-1054	745.3	772.98	28
1882	J-1055	698	748.53	50
1884	J-1056	756.93	793.86	37
1886	J-1057	757.05	793.96	37
1888	J-1058	706.5	752.9	46
1889	J-1059	706	752.9	47
1891	J-1060	705	748.15	43
1892	J-1061	705.5	748.16	43
1894	J-1062	746.45	794.15	48
1896	J-1063	757.5	793.81	36
1897	J-1064	751.8	793.81	42
1899	J-1065	770.12	793.85	24
1901	J-1066	701.3	742.07	41
1902	J-1067	700.8	742.08	41
1904	J-1068	739	788.59	49
1906	J-1069	721.07	771.19	50

1908	J-1070	700.3	748.46	48
1910	J-1071	780	808.8	29
1912	J-1072	781	794.11	13
1913	J-1073	780.5	794.11	14
1915	J-1074	757.48	793.82	36
1916	J-1075	751.78	793.81	42
1918	J-1076	723	771.23	48
1920	J-1077	697	727.68	31
1921	J-1078	690.5	727.68	37
1923	J-1079	715	752.92	38
1924	J-1080	710.1	752.92	43
1926	J-1081	690	727.68	38
1927	J-1082	689.1	727.67	38
1929	J-1083	744.86	793.83	49
1930	J-1084	747.97	793.83	46
1932	J-1085	768	808.76	41
1934	J-1086	777.9	808.87	31
1936	J-1087	725.5	748.65	23
1937	J-1088	725	748.65	24
1939	J-1089	735	794.17	59
1941	J-1090	708	752.9	45
1942	J-1091	705.5	752.9	47
1944	J-1092	696	748.17	52
1946	J-1093	701.4	748.57	47
1948	J-1094	787.91	793.8	6
1949	J-1095	787.3	793.79	6
1951	J-1096	787.42	793.8	6
1952	J-1097	787.8	793.79	6
1954	J-1098	749.91	793.99	44
1956	J-1099	752.3	788.71	36
1957	J-1100	751.14	788.71	37
1959	J-1101	779.8	808.8	29
1961	J-1102	664	717.79	54
1963	J-1103	719	748.6	30
1964	J-1104	718.5	748.61	30
1966	J-1105	720	759.77	40
1968	J-1106	692.1	748.49	56
1969	J-1107	692.8	748.49	56
1971	J-1108	694.5	748.58	54

1972	J-1109	695.7	748.59	53
1974	J-1110	750.71	794.09	43
1976	J-1111	718	748.42	30
1977	J-1112	716	748.42	32
1980	J-1113	745.57	794.2	49
1982	J-1114	748.95	793.85	45
1983	J-1115	749.95	793.85	44
1985	J-1116	715.4	748.4	33
1987	J-1117	769.11	793.85	25
1989	J-1118	763	788.69	26
1991	J-1119	744.56	793.92	49
1993	J-1120	746.35	793.94	47
1995	J-1121	753.4	808.8	55
1997	J-1122	710.5	759.77	49
2000	J-1123	757.2	808.85	52
2002	J-1124	742	771.27	29
2003	J-1125	738	771.27	33
2005	J-1126	694	748.31	54
2007	J-1127	723.4	759.83	36
2009	J-1128	748.65	794	45
2011	J-1129	740	770.71	31
2012	J-1130	737	770.72	34
2014	J-1131	755.11	793.84	39
2016	J-1132	739	788.62	50
2018	J-1133	690.6	748.17	57
2020	J-1134	800	808.84	9
2022	J-1135	710.5	717.77	7
2024	J-1136	705	748.15	43
2025	J-1137	700	748.16	48
2027	J-1138	726.2	759.84	34
2029	J-1139	690	748.17	58
2031	J-1140	707	748.62	42
2032	J-1141	718	748.63	31
2035	J-1142	765	794.12	29
2036	J-1143	762.8	794.13	31
2038	J-1144	716	752.92	37
2039	J-1145	709.38	752.92	43
2041	J-1146	722	771.24	49
2042	J-1147	723.89	771.25	47

2044	J-1148	725.6	772.95	47
2046	J-1149	695.8	748.31	52
2048	J-1150	710.1	748.44	38
2050	J-1151	705.3	748.48	43
2051	J-1152	707.3	748.48	41
2053	J-1153	710	717.74	8
2055	J-1154	702.01	759.77	58
2057	J-1155	697.8	748.27	50
2059	J-1156	683	727.7	45
2062	J-1157	706.7	748.55	42
2064	J-1158	719.3	748.49	29
2066	J-1159	706	742.99	37
2068	J-1160	710	751.44	41
2069	J-1161	705.43	751.45	46
2071	J-1162	706	748.6	43
2072	J-1163	716.4	748.6	32
2074	J-1164	700.3	748.58	48
2075	J-1165	708.5	748.58	40
2077	J-1166	739	748.65	10
2079	J-1167	787.22	793.79	7
2081	J-1168	714	748.52	34
2082	J-1169	731.2	748.53	17
2084	J-1170	739.5	772.98	33
2086	J-1171	697	748.37	51
2087	J-1172	696.2	748.36	52
2089	J-1173	726.4	748.59	22
2090	J-1174	711	748.59	38
2092	J-1175	681.06	717.73	37
2094	J-1176	711	748.13	37
2095	J-1177	708	748.14	40
2098	J-1178	697.3	748.56	51
2099	J-1179	695.4	748.57	53
2101	J-1180	686	727.7	42
2103	J-1181	715	748.14	33
2104	J-1182	704	748.16	44
2106	J-1183	712	748.39	36
2108	J-1184	700	748.47	48
2110	J-1185	715	748.64	34
2111	J-1186	713.2	748.63	35

2113	J-1187	724.5	772.94	48
2115	J-1188	703.3	748.58	45
2116	J-1189	714.4	748.6	34
2118	J-1190	763	794.13	31
2119	J-1191	770	794.12	24
2121	J-1192	688	727.66	40
2122	J-1193	690.3	727.68	37
2124	J-1194	722.5	748.43	26
2126	J-1195	711	748.47	37
2132	J-1196	706.32	751.45	45
2138	J-1197	730.4	770.73	40
2139	J-1198	730.1	770.73	41
2144	J-1199	716.13	751.45	35
2150	J-1200	711.14	751.45	40
2153	J-1201	742.3	783.16	41
2178	J-1202	711.5	742.08	31
2191	J-1203	712.96	771.19	58
2213	J-1204	716	751.44	35
2229	J-1205	702	748.44	46
2237	J-1207	708.99	759.78	51
2242	J-1208	715.28	771.2	56
2251	J-1209	731	770.71	40
2258	J-1210	708.91	759.78	51
2378	J-1211	752.38	793.86	41
2420	J-1212	760.54	794.14	34

4.2 PRESIONI TOTAL NE TUBACIONIN E LINJES SE UJESJELLESIT

Grushti hidraulik eshte nje rritje presioni ose vale presioni kur nje fluid ne levizje eshte i detyruar te ndaloje menjehere ose te ndryshoje drejtimin e levizjes (ndryshim momenti). Grushti hidraulik zakonisht ndodh kur nje valvul mbylletshume shpejt ne fillim ose ne fund te sistemit te tubacionit dh shkakton nje vale presioni ne tubacion. Grushti hidraulik shkakton nje presion me te madh se presioni hidrostatik e cila shkaktohet nga lartesia e ujit te tubacion. Ngritja e presionit shprehet ne lartesi ne metra h_{surge} njesoj si presioni

hidrostatik h_{bruto}.. Se pari llogaritim shpejtesin e vales se presionit duke perdorur ekuacionin e meposhtem:

$$a = \frac{\sqrt{\frac{E_u}{\rho}}}{\sqrt{\frac{d}{t} * \frac{E_u}{E_{celiku}} + 1}} \text{ (m/s)}$$

Ngritja e presionit $h_{grushti}$ llogaritet si me poshte:

$$h_{grushti} = \frac{a * v}{g} = \frac{a * Q * 4}{g * d * \pi}$$

Ku Q - eshtc prurja llogaritesenc tubacion,

D - eshte diametric I tubacionit

g - eshte nxitimi gravitacional

Humbjet totale ne tubacion do te jene

$H = h_{grushti} + h_{bruto}$

4.3 LLOGARITJA E SPESORIT TE TUBACIONIT

Llogaritja e trashesise se mureve te tubacioneve behet ne baze te kerkesave te meposhtme:

- materiali i zgjedhur i tubacionit,
- rezistenca e tij maksimale ne terheqje,
- diamctri i tubacionit
- dhe presioni i punes se sistemit

Keshillohet qe koeficienti i sigurise SF te garantoje dobesimet e materialit ose korrozionin e fshehur dhe te mos shkaterrohet nga sforcimet maksimale. Faktori i sigurise SF=2.5 deri ne 3.5 eshte i pershtatshem per me te shumten e rasteve.

$$SF = \frac{t_{zgjedhur}}{t_{min}} = 2.5 - 3.5$$

Per tubat me mure te holle perdoret formula e Barlow e cila lidh presionin e brendshem qe mund te perballoje ne lidhje me dimensionet dhe fortesise se materialeve.

$$t_{min} = \frac{p_i * d}{\sigma_u * 2} \text{ (m)}$$