EVERETT SMELTER SITE

Everett,Washington

INTEGRATED
FINAL CLEANUP ACTION PLAN
and
FINAL ENVIRONMENTAL IMPACT STATEMENT
for the
UPLAND AREA

Volume III

Puget Sound Reduction Works facility looking east. December 10, 1895.
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Washington State Department of Ecology

November 19, 1999

INDEX TO
EVERETT SMELTER SITE
INTEGRATED
FINAL CLEANUP ACTION PLAN
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for the
UPLAND AREA

This document consists of four volumes.

Everett Smelter Site
Integrated Final Cleanup Action Plan and Final Environment Impact Statement

Appendix B
Responsiveness Summary

Attachment B2

Generalized Questions and Associated Comments

Correlation Table for Comments to Generalized Question
Sorted by Comment Number

Comment ID	Last Name	GQ #
1	Ryan	7.1.3
2	Ryan	7.1.9
3	Ryan	6.6.15
3	Ryan	7.2.1
4	Ryan	6.1.3
5	Ryan	9.0
6	Ryan	8.4
7	Ryan	6.2.6
7	Ryan	5.2.1
8	Robison	9.0
9	Robison	5.2.2
10	Robison	5.2.1
11	Robison	6.1.10
12	Robison	7.1.3
13	Robison	8.1
13	Robison	6.1.11
14	Robison	6.1.12
15	Robison	6.1.6
16	Robison	8.2
17	Robison	8.3
17	Robison	6.2.3
18	Robison	6.2.10
18	Robison	6.6.3
18	Robison	6.6.1
19	Robison	6.6.3
20	Robison	9.0
21	Robison	7.1.7
22	Robison	7.1.9
23	Robison	6.2.3
23	Robison	8.3
24	Robison	3.2.3
25	Robison	6.2.9
26	Robison	6.3.1
27	Robison	5.2.1
27	Robison	6.2.6
28	Robison	5.2.2
29	Robison	4.2.3
30	Robison	8.4
31	Robison	6.1.11
31	Robison	6.1.8
32	Enderlein	2.1.3
32	Enderlein	6.6.12
33	Enderlein	6.6.9
34	Enderlein	6.6.13
35	Enderlein	6.6.12
35	Enderlein	6.6.11
36	White	9.0
37	White	9.0
38	White	8.2
39	White	4.2.5
40	White	4.2.3
40	White	4.2.2
41	White	5.2.1
42	White	3.2.3
42	White	6.2.10
42	White	6.2.6
43	Aldrich	4.1
44	Aldrich	4.1
45	Aldrich	4.1
45	Aldrich	7.1.5
46	Aldrich	5.2.2
47	Aldrich	5.2.2
48	Aldrich	2.1.1
49	Aldrich	2.1.3
49	Aldrich	4.2.5
50	Aldrich	7.1.5
51	Aldrich	2.1.3
52	Aldrich	2.1.3
53	Aldrich	2.1.3
54	Aldrich	5.2.2
54	Aldrich	2.1.4
55	Aldrich	2.1.4
56	Aldrich	2.1.5
57	Lowery	6.1.13
58	Lowery	7.1.2
59	Lowery	4.1
60	Lowery	7.1.1
61	Chase	9.0
62	Chase	6.1.23
63	Enberg	8.1
64	Enberg	7.1.1
65	Kahlor	8.1
66	Newton	7.1.1
67	Newton	6.1.13
68	Newton	7.1.2
69	Newton	6.1.1
69	Newton	4.1
70	Beaman	9.0

Correlation Table for Comments to Generalized Question
Sorted by Comment Number

Comment ID	Last Name	GQ #
71	McKeague	9.0
72	Wilson	9.0
73	Durard	9.0
74	Stegath	9.0
75	Scougale	8.1
76	Hoffart	9.0
77	Anstis	9.0
78	Minnick	9.0
79	Smith	9.0
80	Smith	6.6.16
81	Hamm	9.0
82	Hamm	9.0
83	Hamm	9.0
84	Abbenhouse	9.0
85	Abbenhouse	9.0
86	Abbenhouse	9.0
87	Langabeer	9.0
88	Langabeer	7.2.1
88	Langabeer	6.6.15
89	Langabeer	4.1
90	Public	6.6.6
91	Public	6.6.6
92	Public	6.6.17
93	Public	6.6.17
94	Public	6.6.11
95	Public	7.1.1
96	Public	7.1.1
97	Public	8.1
98	Public	6.6.4
99	Public	6.1.13
100	Public	6.1.15
101	Public	6.1.15
102	Public	6.1.15
103	Public	6.4.3
104	Public	6.1.1
104	Public	4.1
105	Public	6.1.16
106	Public	6.1.14
107	Public	6.1.11
108	Public	6.1.11
109	Public	6.1.11
110	Public	6.4.3
111	Ryan	4.2.2
111	Ryan	4.2.3
112	Ryan	4.1
112	Ryan	5.2.2
113	Ryan	6.1.2
114	Ryan	6.1.5
115	Ryan	6.1.6
116	Ryan	6.1.1
117	Ryan	6.1.18
118	Ryan	6.1.10
119	Ryan	6.2.4
120	Ryan	3.2.3
121	Ryan	6.3.1
122	Ryan	6.2.9
123	Ryan	6.2.3
123	Ryan	8.3
124	Ryan	6.6.3
125	Ryan	6.6.5
126	Ryan	6.6.15
126	Ryan	7.2.1
127	Ryan	6.6.17
128	Ryan	7.1.4
129	Ryan	7.1.6
130	Aldrich	4.1
130	Aldrich	5.2.2
130	Aldrich	3.1.2
130	Aldrich	4.2.1
131	Aldrich	5.2.2
132	Aldrich	3.2.3
133	Aldrich	3.2.1
134	Aldrich	3.2.1
135	Aldrich	3.2.2
136	Aldrich	3.2.4
137	Aldrich	3.2.4
138	Aldrich	4.1
139	Aldrich	4.1
140	Aldrich	4.2.4
141	Aldrich	4.2.2
142	Aldrich	4.2.2
142	Aldrich	4.2.3
142	Aldrich	7.1.7
143	Aldrich	4.3.1
144	Aldrich	4.4.1
145	Aldrich	4.4.1
146	Aldrich	4.4.2
147	Aldrich	4.4.1
147	Aldrich	4.3.1
148	Aldrich	5.2.2

Correlation Table for Comments to Generalized Question
Sorted by Comment Number

Comment ID	Last Name	GQ #
149	Aldrich	5.1.23
149	Aldrich	4.2.1
149	Aldrich	5.2.2
149	Aldrich	4.1
150	Aldrich	5.1.6
150	Aldrich	5.1.7
151	Aldrich	3.2.3
151	Aldrich	3.2.4
152	Aldrich	5.2.2
153	Aldrich	5.2.1
153	Aldrich	5.2.2
154	Aldrich	5.2.2
154	Aldrich	4.1
155	Aldrich	5.2.2
155	Aldrich	4.1
156	Aldrich	5.2.2
156	Aldrich	5.1.3
157	Aldrich	5.2.2
158	Aldrich	6.1.19
158	Aldrich	4.1
159	Aldrich	6.2.5
160	Aldrich	6.6.1
160	Aldrich	6.6.2
161	Aldrich	4.1
162	Aldrich	7.1.4
163	Aldrich	7.1.4
164	Aldrich	7.1.5
165	Aldrich	7.1.4
166	Aldrich	3.2.3
167	Aldrich	7.1.3
168	Aldrich	7.1.10
169	Aldrich	7.1.11
170	Aldrich	7.2.2
171	Aldrich	4.1
172	Aldrich	4.1
172	Aldrich	4.2.1
172	Aldrich	5.2.2
173	Aldrich	5.1.1
174	Aldrich	5.1.1
175	Aldrich	5.1.5
175	Aldrich	5.1.6
175	Aldrich	5.1.4
176	Aldrich	5.1.5
177	Aldrich	5.1.6
178	Aldrich	5.1.6

Comment ID	Last Name	GQ #
179	Aldrich	5.1.6
180	Aldrich	5.1.8
181	Aldrich	5.1.10
181	Aldrich	5.1.9
182	Aldrich	5.1.13
183	Aldrich	5.1.12
184	Aldrich	5.1.12
185	Aldrich	5.1.11
185	Aldrich	5.1.13
185	Aldrich	5.1.4
186	Hecht	9.0
187	Altice	9.0
188	Martino	9.0
189	Hugel	9.0
190	Lichneckert	9.0
191	Jones	9.0
192	Johanson	9.0
193	Cogdill	9.0
194	Hardy	9.0
195	Nasr	9.0
196	Adams	9.0
197	Reebuck	9.0
198	Hansen	9.0
199	Adams	9.0
200	Trill	9.0
201	Garver	9.0
202	Bradburn	9.0
203	Bradburn	9.0
204	Cuneo	9.0
205	Otis	9.0
206	Brown	9.0
207	Brown	7.1.1
208	Koonce	9.0
209	Schofield	9.0
210	Magnuson-	7.2.3
210	Magnuson-	9.0
211	Hubert	7.1.1
212	Carpenter	9.0
213	Carpenter	9.0
214	Deakin	9.0
215	Deahn	9.0
216	Aldrich	6.1.4
216	Aldrich	6.1.3
217	Aldrich	7.1.9
218	Soine	5.1.1

Correlation Table for Comments to Generalized Question
Sorted by Comment Number

Comment ID	Last Name	GQ #
219	Aldrich	5.1.12
220	Aldrich	5.1.14
221	Aldrich	5.1.14
222	Aldrich	5.1.14
223	Aldrich	5.1.14
224	Aldrich	5.1.14
225	Aldrich	5.1.16
226	Aldrich	5.1.16
227	Aldrich	5.1.16
228	Aldrich	5.1.16
229	Aldrich	5.1.17
230	Aldrich	5.1.18
231	Aldrich	5.1.19
232	Aldrich	5.1.20
233	Aldrich	5.1.23
234	Aldrich	5.1.27
235	Aldrich	5.1.28
236	Aldrich	5.1.29
237	Aldrich	5.1.1
238	Aldrich	5.1.1
239	Aldrich	5.1.1
240	Aldrich	5.1.3
240	Aldrich	5.1.24
240	Aldrich	5.1.23
241	Aldrich	5.1.24
241	Aldrich	8.4
242	Aldrich	8.4
242	Aldrich	5.1.24
243	Aldrich	5.1.24
243	Aldrich	4.2.1
244	Aldrich	4.1
244	Aldrich	4.2.5
245	Aldrich	5.2.2
246	Aldrich	4.1
246	Aldrich	5.1.23
247	Aldrich	5.2.2
247	Aldrich	4.1
248	Aldrich	4.2.1
248	Aldrich	5.1.23
249	Aldrich	5.1.23
249	Aldrich	4.2.1
250	Aldrich	4.2.1
250	Aldrich	5.1.23
251	Aldrich	4.2.1
252	Aldrich	4.1

Comment ID	Last Name	GQ #
253	Aldrich	5.2.2
253	Aldrich	5.2.3
254	Reninger	5.2.1
255	Reninger	6.1.22
256	Reninger	6.6.17
256	Reninger	9.0
257	Reninger	6.1.2
258	Reninger	6.1.20
259	Reninger	6.2.2
260	Reninger	6.2.6
261	Reninger	6.6.14
262	Reninger	9.0
263	Taylor	5.2.2
263	Taylor	5.2.1
263	Taylor	6.6.1
264	Taylor	5.2.1
265	Taylor	5.1.6
265	Taylor	5.2.1
266	Taylor	5.2.1
267	Taylor	5.2.1
268	Taylor	5.2.1
269	Taylor	5.2.1
270	Taylor	5.2.1
271	Taylor	5.2.1
272	Taylor	5.2.1
273	Taylor	5.2.1
274	Taylor	5.2.1
275	Taylor	5.2.1
275	Taylor	5.1.25
276	Taylor	5.2.1
277	Taylor	5.2.1
278	Taylor	5.2.1
279	Taylor	5.2.1
280	Taylor	5.2.1
281	Young R.S.	6.2.1
282	Young R.S.	6.6.10
283	Young R.S.	7.1.8
283	Young R.S.	6.1.17
284	Young R.S.	6.6.15
284	Young R.S.	7.2.1
285	Young R.S.	8.4
285	Young R.S.	8.2
286	Valeriano	9.0
287	Valeriano	5.2.1
287	Valeriano	6.6.1

Correlation Table for Comments to Generalized Question
Sorted by Comment Number

Comment ID	Last Name	GQ #
288	Valeriano	5.2.2
289	Valeriano	7.2.1
289	Valeriano	6.6.15
290	Valeriano	5.2.1
291	Valeriano	8.2
292	Wiggins	9.0
293	Kauffman	9.0
294	Kaufman	9.0
295	Arens	9.0
296	Lystad	9.0
297	Ogurkow	9.0
298	Clark	9.0
299	Markuson	9.0
300	Aiken	9.0
301	Hendersen	9.0
302	Blaine	9.0
303	Jhmuerton	9.0
304	Kruis	9.0
305	Trautmann	9.0
306	Neighbors	9.0
307	Petitclerc	9.0
308	Surface	9.0
309	Pignataro	9.0
310	Joseph	9.0
311	McKee	9.0
312	Getty	9.0
313	Benson	9.0
314	Smith	9.0
315	Smith	9.0
316	Smith	9.0
317	Case	9.0
318	Klohn-	5.2.4
319	Wohl	9.0
320	Wohl	9.0
321	Kropf	9.0
322	Nielsen	9.0
323	Lindstrom	9.0
324	Aldrich	4.4.1
325	Aldrich	4.2.5
325	Aldrich	4.1
326	Aldrich	6.1.5
326	Aldrich	6.1.6
326	Aldrich	6.1.7
327	Aldrich	5.2.2
327	Aldrich	4.1

Comment ID	Last Name	GQ #
327	Aldrich	4.2.1
328	Aldrich	6.1.18
329	Aldrich	5.2.2
330	Aldrich	6.1.9
331	Aldrich	6.2.3
331	Aldrich	5.2.3
331	Aldrich	8.3
332	Aldrich	6.2.10
333	Aldrich	6.2.7
334	Aldrich	4.5.1
334	Aldrich	4.5.2
335	Glass	2.1.2
336	Glass	6.1.8
337	Soine	5.1.2
338	Soine	6.2.6
338	Soine	5.1.15
339	Soine	6.2.6
339	Soine	5.1.2
339	Soine	5.1.15
340	Soine	6.2.6
340	Soine	5.1.15
341	Soine	2.1.6
342	Soine	6.6.3
343	Soine	6.6.3
344	Soine	6.6.4
345	Soine	6.6.6
346	Soine	6.6.7
346	Soine	6.6.8
347	Soine	6.6.7
348	Soine	8.2
349	Soine	6.1.21
350	Soine	6.6.9
351	Soine	6.6.11
352	Soine	6.6.16
353	Soine	6.6.18
354	Soine	6.4.1
355	Soine	4.3.4
356	Soine	4.3.3
357	Soine	6.5.2
357	Soine	4.5.1
357	Soine	6.5.1
358	Soine	6.4.2
359	Soine	6.4.2
360	Soine	2.1.2
361	Soine	5.1.22

Correlation Table for Comments to Generalized Question
Sorted by Comment Number

Comment ID	Last Name	GQ #
362	Soine	2.1.2
363	Soine	5.1.1
363	Soine	5.1.2
364	Soine	5.1.30
365	Soine	5.1.2
365	Soine	5.1.1
366	Glass	5.1.20
367	Glass	6.2.8
368	Glass	5.2.2
368	Glass	5.2.1
369	Glass	5.2.2
369	Glass	5.2.1
370	Glass	6.2.9
371	Glass	5.2.2
372	Glass	3.2.3
373	Glass	3.2.3
374	Glass	5.2.2
375	Glass	5.2.2
376	Glass	4.2.2
376	Glass	7.1.7
376	Glass	4.2.3
376	Glass	5.2.2
377	Glass	5.1.24
378	Glass	5.1.21
379	Glass	6.6.16
380	Glass	7.2.1
380	Glass	6.6.15
381	Glass	6.6.15
381	Glass	7.2.1
381	Glass	6.6.1
382	Glass	7.1.3
383	Glass	4.1
384	Glass	6.2.4
385	Glass	2.1.3
386	Glass	6.3.1
387	Glass	6.3.1
388	Glass	7.1.9
389	Glass	6.1.9
389	Glass	6.1.10
390	Glass	7.1.4
391	Glass	7.1.4
392	Glass	7.1.4
393	Glass	7.1.4
394	Glass	7.1.4
395	Glass	4.1
396	Glass	7.1.4
397	Glass	6.2.3
397	Glass	8.3
398	Glass	4.1
399	Glass	5.1.26
400	Glass	4.3.2
400	Glass	4.4.2
401	Glass	6.1.1
402	Glass	6.6.5
403	Glass	7.1.4
404	Soine	5.1.2
405	Aldrich	4.2.5
406	Aldrich	4.1
407	Aldrich	4.1
407	Aldrich	4.2.1
407	Aldrich	5.2.2
408	Aldrich	4.1
409	Aldrich	4.1
410	Aldrich	4.1
411	Aldrich	4.1
412	Aldrich	4.1
413	Aldrich	4.1
414	Aldrich	4.2.3
414	Aldrich	4.2.2
415	Aldrich	4.1
415	Aldrich	4.2.5
416	Aldrich	4.1
416	Aldrich	7.1.5
417	Aldrich	7.1.5
418	Aldrich	7.1.5
419	Aldrich	7.1.5
420	Aldrich	7.1.5
421	Aldrich	7.1.5
422	Aldrich	7.1.5
423	Aldrich	7.1.5
424	Aldrich	7.1.5
425	Aldrich	4.1
425	Aldrich	7.1.5
426	Aldrich	4.1
426	Aldrich	7.1.5
427	Aldrich	7.1.5
428	Aldrich	5.2.2
429	Aldrich	5.2.2
430	Aldrich	5.2.2
431	Aldrich	5.2.2

Correlation Table for Comments to Generalized Question
Sorted by Comment Number

Comment ID	Last Name	GQ #
432	Aldrich	5.2.2
433	Aldrich	5.2.2
434	Aldrich	5.2.2
435	Aldrich	5.2.2
436	Aldrich	3.2.2
436	Aldrich	3.2.4
437	Aldrich	3.2.2
438	Aldrich	3.2.4
439	Aldrich	3.2.2
439	Aldrich	3.2.4
440	Aldrich	5.2.2
440	Aldrich	3.1.1
440	Aldrich	5.2.1
440	Aldrich	4.2.1
441	Aldrich	3.1.1
441	Aldrich	5.2.1
441	Aldrich	4.2.1
441	Aldrich	5.2.2
443	Aldrich	3.1.1
443	Aldrich	5.1.23
443	Aldrich	4.2.1
443	Aldrich	5.2.1
443	Aldrich	5.2.2
443	Aldrich	4.1
444	Aldrich	4.1
445	Aldrich	3.2.2
446	Aldrich	3.2.4
447	Aldrich	4.1
448	Aldrich	4.1
449	Aldrich	4.1
450	Aldrich	4.1
451	Aldrich	4.1
452	Aldrich	4.1
453	Aldrich	4.1
454	Aldrich	4.1
455	Aldrich	4.1
456	Aldrich	4.1
457	Aldrich	4.1
458	Aldrich	4.1

Comment ID	Last Name	GQ #
459	Aldrich	4.1
460	Aldrich	4.1
461	Aldrich	4.1
462	Aldrich	4.1
463	Aldrich	4.1
464	Aldrich	4.1
465	Aldrich	4.1
466	Aldrich	4.1
467	Aldrich	4.1
468	Aldrich	4.1
469	Aldrich	4.1
470	Aldrich	4.1
471	Aldrich	4.1
472	Aldrich	4.1
473	Aldrich	4.1
474	Aldrich	4.1
475	Aldrich	4.1
476	Aldrich	5.1.23
476	Aldrich	4.2.1
477	Aldrich	4.1
477	Aldrich	4.2.1
477	Aldrich	5.1.23
478	Aldrich	5.1.23
478	Aldrich	4.2.1
479	Aldrich	4.2.1
479	Aldrich	5.1.23
480	Aldrich	5.2.2
481	Aldrich	4.1
482	Aldrich	4.1
483	Aldrich	4.1
484	Aldrich	4.1
485	Aldrich	4.1
486	Aldrich	4.1
487	Aldrich	4.1
488	Aldrich	4.1
489	Public	8.2
490	Public	6.1.23
491	Public	8.2

Correlation Table for Comments to Generalized Question
Sorted by Commentor Name

Last Name	Comment Number	GQ#
Abbenhouse	84	9.0
Abbenhouse	85	9.0
Abbenhouse	86	9.0
Adams	196	9.0
Adams	199	9.0
Aiken	300	9.0
Aldrich	221	5.1.14
Aldrich	230	5.1.18
Aldrich	229	5.1.17
Aldrich	228	5.1.16
Aldrich	227	5.1.16
Aldrich	226	5.1.16
Aldrich	225	5.1.16
Aldrich	224	5.1.14
Aldrich	231	5.1.19
Aldrich	222	5.1.14
Aldrich	240	5.1.24
Aldrich	220	5.1.14
Aldrich	223	5.1.14
Aldrich	232	5.1.20
Aldrich	233	5.1.23
Aldrich	185	5.1.13
Aldrich	249	5.1.23
Aldrich	181	5.1.10
Aldrich	241	5.1.24
Aldrich	242	5.1.24
Aldrich	243	5.1.24
Aldrich	234	5.1.27
Aldrich	235	5.1.28
Aldrich	236	5.1.29
Aldrich	153	5.2.1
Aldrich	440	5.2.1
Aldrich	240	5.1.23
Aldrich	176	5.1.5
Aldrich	414	4.2.3
Aldrich	142	4.2.3
Aldrich	414	4.2.2
Aldrich	405	4.2.5
Aldrich	172	4.1
Aldrich	327	4.1
Aldrich	406	4.1
Aldrich	447	4.1
Aldrich	156	5.1.3
Aldrich	240	5.1.3
Aldrich	175	5.1.4

Last Name	Comment Number	GQ#
Aldrich	184	5.1.12
Aldrich	175	5.1.5
Aldrich	182	5.1.13
Aldrich	150	5.1.6
Aldrich	175	5.1.6
Aldrich	177	5.1.6
Aldrich	178	5.1.6
Aldrich	179	5.1.6
Aldrich	150	5.1.7
Aldrich	180	5.1.8
Aldrich	181	5.1.9
Aldrich	54	5.2.2
Aldrich	185	5.1.11
Aldrich	441	5.2.1
Aldrich	185	5.1.4
Aldrich	247	5.2.2
Aldrich	46	5.2.2
Aldrich	444	4.1
Aldrich	139	4.1
Aldrich	448	4.1
Aldrich	161	4.1
Aldrich	325	4.1
Aldrich	449	4.1
Aldrich	450	4.1
Aldrich	451	4.1
Aldrich	452	4.1
Aldrich	453	4.1
Aldrich	443	4.1
Aldrich	455	4.1
Aldrich	426	4.1
Aldrich	327	5.2.2
Aldrich	329	5.2.2
Aldrich	407	5.2.2
Aldrich	428	5.2.2
Aldrich	429	5.2.2
Aldrich	430	5.2.2
Aldrich	431	5.2.2
Aldrich	432	5.2.2
Aldrich	433	5.2.2
Aldrich	434	5.2.2
Aldrich	435	5.2.2
Aldrich	454	4.1
Aldrich	172	5.2.2
Aldrich	142	4.2.2
Aldrich	47	5.2.2

Correlation Table for Comments to Generalized Question
Sorted by Commentor Name

Last Name	Comment Number	GQ#
Aldrich	145	4.4.1
Aldrich	130	5.2.2
Aldrich	131	5.2.2
Aldrich	148	5.2.2
Aldrich	149	5.2.2
Aldrich	152	5.2.2
Aldrich	153	5.2.2
Aldrich	154	5.2.2
Aldrich	155	5.2.2
Aldrich	130	4.1
Aldrich	157	5.2.2
Aldrich	443	5.2.1
Aldrich	245	5.2.2
Aldrich	138	4.1
Aldrich	407	4.1
Aldrich	408	4.1
Aldrich	409	4.1
Aldrich	410	4.1
Aldrich	411	4.1
Aldrich	412	4.1
Aldrich	413	4.1
Aldrich	416	4.1
Aldrich	425	4.1
Aldrich	156	5.2.2
Aldrich	424	7.1.5
Aldrich	334	4.5.1
Aldrich	165	7.1.4
Aldrich	45	7.1.5
Aldrich	50	7.1.5
Aldrich	164	7.1.5
Aldrich	416	7.1.5
Aldrich	417	7.1.5
Aldrich	418	7.1.5
Aldrich	419	7.1.5
Aldrich	420	7.1.5
Aldrich	421	7.1.5
Aldrich	162	7.1.4
Aldrich	423	7.1.5
Aldrich	167	7.1.3
Aldrich	425	7.1.5
Aldrich	426	7.1.5
Aldrich	427	7.1.5
Aldrich	142	7.1.7
Aldrich	217	7.1.9
Aldrich	168	7.1.10
Aldrich	169	7.1.11
Aldrich	170	7.2.2
Aldrich	331	8.3
Aldrich	241	8.4
Aldrich	242	8.4
Aldrich	422	7.1.5
Aldrich	239	5.1.1
Aldrich	437	3.2.2
Aldrich	478	4.2.1
Aldrich	476	4.2.1
Aldrich	43	4.1
Aldrich	44	4.1
Aldrich	45	4.1
Aldrich	158	4.1
Aldrich	252	4.1
Aldrich	171	4.1
Aldrich	173	5.1.1
Aldrich	334	4.5.2
Aldrich	163	7.1.4
Aldrich	238	5.1.1
Aldrich	51	2.1.3
Aldrich	174	5.1.1
Aldrich	253	5.2.2
Aldrich	415	4.1
Aldrich	160	6.6.1
Aldrich	328	6.1.18
Aldrich	158	6.1.19
Aldrich	331	6.2.3
Aldrich	159	6.2.5
Aldrich	333	6.2.7
Aldrich	332	6.2.10
Aldrich	160	6.6.2
Aldrich	237	5.1.1
Aldrich	147	4.3.1
Aldrich	443	4.2.1
Aldrich	477	4.2.1
Aldrich	172	4.2.1
Aldrich	248	4.2.1
Aldrich	249	4.2.1
Aldrich	250	4.2.1
Aldrich	251	4.2.1
Aldrich	327	4.2.1
Aldrich	407	4.2.1
Aldrich	440	4.2.1
Aldrich	441	4.2.1

Correlation Table for Comments to Generalized Question
Sorted by Commentor Name

Last Name	Comment Number	GQ#
Aldrich	48	2.1.1
Aldrich	143	4.3.1
Aldrich	137	3.2.4
Aldrich	147	4.4.1
Aldrich	144	4.4.1
Aldrich	325	4.2.5
Aldrich	140	4.2.4
Aldrich	244	4.2.5
Aldrich	49	4.2.5
Aldrich	415	4.2.5
Aldrich	219	5.1.12
Aldrich	324	4.4.1
Aldrich	440	5.2.2
Aldrich	146	4.4.2
Aldrich	479	4.2.1
Aldrich	436	3.2.2
Aldrich	141	4.2.2
Aldrich	52	2.1.3
Aldrich	53	2.1.3
Aldrich	55	2.1.4
Aldrich	54	2.1.4
Aldrich	56	2.1.5
Aldrich	440	3.1.1
Aldrich	441	3.1.1
Aldrich	443	3.1.1
Aldrich	130	3.1.2
Aldrich	133	3.2.1
Aldrich	243	4.2.1
Aldrich	439	3.2.2
Aldrich	130	4.2.1
Aldrich	135	3.2.2
Aldrich	445	3.2.2
Aldrich	132	3.2.3
Aldrich	151	3.2.3
Aldrich	166	3.2.3
Aldrich	136	3.2.4
Aldrich	439	3.2.4
Aldrich	446	3.2.4
Aldrich	438	3.2.4
Aldrich	436	3.2.4
Aldrich	151	3.2.4
Aldrich	49	2.1.3
Aldrich	134	3.2.1
Aldrich	149	5.1.23
Aldrich	481	4.1

Last Name	Comment Number	GQ#
Aldrich	482	4.1
Aldrich	483	4.1
Aldrich	485	4.1
Aldrich	487	4.1
Aldrich	488	4.1
Aldrich	244	4.1
Aldrich	246	4.1
Aldrich	326	6.1.6
Aldrich	326	6.1.7
Aldrich	330	6.1.9
Aldrich	477	4.1
Aldrich	149	4.2.1
Aldrich	484	4.1
Aldrich	253	5.2.3
Aldrich	331	5.2.3
Aldrich	246	5.1.23
Aldrich	248	5.1.23
Aldrich	250	5.1.23
Aldrich	443	5.1.23
Aldrich	476	5.1.23
Aldrich	477	5.1.23
Aldrich	478	5.1.23
Aldrich	479	5.1.23
Aldrich	441	5.2.2
Aldrich	183	5.1.12
Aldrich	149	4.1
Aldrich	458	4.1
Aldrich	443	5.2.2
Aldrich	480	5.2.2
Aldrich	154	4.1
Aldrich	155	4.1
Aldrich	247	4.1
Aldrich	216	6.1.3
Aldrich	216	6.1.4
Aldrich	326	6.1.5
Aldrich	486	4.1
Aldrich	457	4.1
Aldrich	475	4.1
Aldrich	459	4.1
Aldrich	460	4.1
Aldrich	461	4.1
Aldrich	471	4.1
Aldrich	474	4.1
Aldrich	473	4.1
Aldrich	456	4.1

Correlation Table for Comments to Generalized Question
Sorted by Commentor Name

Last Name	Comment Number	GQ#
Aldrich	462	4.1
Aldrich	472	4.1
Aldrich	470	4.1
Aldrich	465	4.1
Aldrich	464	4.1
Aldrich	469	4.1
Aldrich	466	4.1
Aldrich	467	4.1
Aldrich	468	4.1
Aldrich	463	4.1
Altice	187	9.0
Anstis	77	9.0
Arens	295	9.0
Beaman	70	9.0
Benson	313	9.0
Blaine	302	9.0
Bradburn	203	9.0
Bradburn	202	9.0
Brown	206	9.0
Brown	207	7.1.1
Carpenter	213	9.0
Carpenter	212	9.0
Case	317	9.0
Chase	62	6.1.23
Chase	61	9.0
Clark	298	9.0
Cogdill	193	9.0
Cuneo	204	9.0
Deahn	215	9.0
Deakin	214	9.0
Durard	73	9.0
Enberg	63	8.1
Enberg	64	7.1.1
Enderlein	35	6.6.11
Enderlein	34	6.6.13
Enderlein	32	6.6.12
Enderlein	32	2.1.3
Enderlein	33	6.6.9
Enderlein	35	6.6.12
Garver	201	9.0
Getty	312	9.0
Glass	394	7.1.4
Glass	396	7.1.4
Glass	403	7.1.4
Glass	376	7.1.7

Last Name	Comment Number	GQ#
Glass	380	7.2.1
Glass	380	6.6.15
Glass	381	7.2.1
Glass	397	8.3
Glass	388	7.1.9
Glass	399	5.1.26
Glass	397	6.2.3
Glass	384	6.2.4
Glass	367	6.2.8
Glass	370	6.2.9
Glass	386	6.3.1
Glass	379	6.6.16
Glass	402	6.6.5
Glass	393	7.1.4
Glass	381	6.6.15
Glass	335	2.1.2
Glass	382	7.1.3
Glass	390	7.1.4
Glass	391	7.1.4
Glass	392	7.1.4
Glass	387	6.3.1
Glass	383	4.1
Glass	381	6.6.1
Glass	401	6.1.1
Glass	389	6.1.10
Glass	389	6.1.9
Glass	336	6.1.8
Glass	395	4.1
Glass	376	5.2.2
Glass	375	5.2.2
Glass	374	5.2.2
Glass	371	5.2.2
Glass	378	5.1.21
Glass	368	5.2.2
Glass	385	2.1.3
Glass	369	5.2.1
Glass	368	5.2.1
Glass	377	5.1.24
Glass	366	5.1.20
Glass	376	4.2.3
Glass	376	4.2.2
Glass	400	4.4.2
Glass	400	4.3.2
Glass	373	3.2.3
Glass	372	3.2.3

Correlation Table for Comments to Generalized Question
Sorted by Commentor Name

Last Name	Comment Number	GQ#
Glass	369	5.2.2
Glass	398	4.1
Hamm	81	9.0
Hamm	82	9.0
Hamm	83	9.0
Hansen	198	9.0
Hardy	194	9.0
Hecht	186	9.0
Hendersen	301	9.0
Hoffart	76	9.0
Hubert	211	7.1.1
Hugel	189	9.0
Jhmuerton	303	9.0
Johanson	192	9.0
Jones	191	9.0
Joseph	310	9.0
Kahlor	65	8.1
Kauffman	293	9.0
Kaufman	294	9.0
Klohn-	318	5.2.4
Koonce	208	9.0
Kropf	321	9.0
Kruis	304	9.0
Langabeer	89	4.1
Langabeer	88	6.6.15
Langabeer	88	7.2.1
Langabeer	87	9.0
Lichneckert	190	9.0
Lindstrom	323	9.0
Lowery	60	7.1.1
Lowery	57	6.1.13
Lowery	59	4.1
Lowery	58	7.1.2
Lystad	296	9.0
Magnuson-	210	7.2.3
Magnuson-	210	9.0
Markuson	299	9.0
Martino	188	9.0
McKeague	71	9.0
McKee	311	9.0
Minnick	78	9.0
Nasr	195	9.0
Neighbors	306	9.0
Newton	68	7.1.2
Newton	69	6.1.1

Last Name	Comment Number	GQ#
Newton	69	4.1
Newton	67	6.1.13
Newton	66	7.1.1
Nielsen	322	9.0
Ogurkow	297	9.0
Otis	205	9.0
Petitclerc	307	9.0
Pignataro	309	9.0
Public	96	7.1.1
Public	490	6.1.23
Public	103	6.4.3
Public	110	6.4.3
Public	98	6.6.4
Public	104	4.1
Public	94	6.6.11
Public	105	6.1.16
Public	95	7.1.1
Public	90	6.6.6
Public	97	8.1
Public	491	8.2
Public	108	6.1.11
Public	107	6.1.11
Public	489	8.2
Public	104	6.1.1
Public	93	6.6.17
Public	101	6.1.15
Public	100	6.1.15
Public	106	6.1.14
Public	99	6.1.13
Public	91	6.6.6
Public	109	6.1.11
Public	92	6.6.17
Public	102	6.1.15
Reebuck	197	9.0
Reninger	257	6.1.2
Reninger	259	6.2.2
Reninger	254	5.2.1
Reninger	261	6.6.14
Reninger	262	9.0
Reninger	255	6.1.22
Reninger	256	9.0
Reninger	258	6.1.20
Reninger	256	6.6.17
Reninger	260	6.2.6
Robison	23	6.2.3

Correlation Table for Comments to Generalized Question
Sorted by Commentor Name

Last Name	Comment Number	GQ#
Robison	27	6.2.6
Robison	18	6.2.10
Robison	26	6.3.1
Robison	15	6.1.6
Robison	18	6.6.3
Robison	19	6.6.3
Robison	12	7.1.3
Robison	25	6.2.9
Robison	21	7.1.7
Robison	17	6.2.3
Robison	20	9.0
Robison	31	6.1.8
Robison	11	6.1.10
Robison	13	6.1.11
Robison	31	6.1.11
Robison	14	6.1.12
Robison	28	5.2.2
Robison	9	5.2.2
Robison	27	5.2.1
Robison	10	5.2.1
Robison	22	7.1.9
Robison	8	9.0
Robison	29	4.2.3
Robison	24	3.2.3
Robison	30	8.4
Robison	23	8.3
Robison	17	8.3
Robison	16	8.2
Robison	13	8.1
Robison	18	6.6.1
Ryan	6	8.4
Ryan	121	6.3.1
Ryan	118	6.1.10
Ryan	128	7.1.4
Ryan	111	4.2.3
Ryan	127	6.6.17
Ryan	126	6.6.15
Ryan	3	6.6.15
Ryan	2	7.1.9
Ryan	124	6.6.3
Ryan	129	7.1.6
Ryan	122	6.2.9
Ryan	7	6.2.6
Ryan	119	6.2.4
Ryan	123	6.2.3

Last Name	Comment Number	GQ#
Ryan	117	6.1.18
Ryan	5	9.0
Ryan	125	6.6.5
Ryan	112	4.1
Ryan	115	6.1.6
Ryan	114	6.1.5
Ryan	4	6.1.3
Ryan	1	7.1.3
Ryan	116	6.1.1
Ryan	3	7.2.1
Ryan	112	5.2.2
Ryan	7	5.2.1
Ryan	111	4.2.2
Ryan	120	3.2.3
Ryan	123	8.3
Ryan	126	7.2.1
Ryan	113	6.1.2
Schofield	209	9.0
Scougale	75	8.1
Smith	316	9.0
Smith	315	9.0
Smith	314	9.0
Smith	79	9.0
Smith	80	6.6.16
Soine	345	6.6.6
Soine	363	5.1.2
Soine	339	5.1.2
Soine	353	6.6.18
Soine	361	5.1.22
Soine	357	6.5.2
Soine	342	6.6.3
Soine	343	6.6.3
Soine	344	6.6.4
Soine	340	5.1.15
Soine	218	5.1.1
Soine	347	6.6.7
Soine	346	6.6.8
Soine	350	6.6.9
Soine	357	6.5.1
Soine	352	6.6.16
Soine	346	6.6.7
Soine	348	8.2
Soine	362	2.1.2
Soine	341	2.1.6
Soine	356	4.3.3

Correlation Table for Comments to Generalized Question
Sorted by Commentor Name

Last Name	Comment Number	GQ#
Soine	357	4.5.1
Soine	355	4.3.4
Soine	360	2.1.2
Soine	365	5.1.2
Soine	404	5.1.2
Soine	338	5.1.15
Soine	351	6.6.11
Soine	365	5.1.1
Soine	340	6.2.6
Soine	339	6.2.6
Soine	354	6.4.1
Soine	358	6.4.2
Soine	363	5.1.1
Soine	359	6.4.2
Soine	364	5.1.30
Soine	338	6.2.6
Soine	337	5.1.2
Soine	339	5.1.15
Soine	349	6.1.21
Stegath	74	9.0
Surface	308	9.0
Taylor	265	5.2.1
Taylor	279	5.2.1
Taylor	275	5.1.25
Taylor	263	5.2.1
Taylor	280	5.2.1
Taylor	265	5.1.6
Taylor	264	5.2.1
Taylor	266	5.2.1
Taylor	269	5.2.1
Taylor	268	5.2.1
Taylor	272	5.2.1
Taylor	270	5.2.1
Taylor	263	6.6.1
Taylor	273	5.2.1
Taylor	274	5.2.1
Taylor	275	5.2.1
Taylor	276	5.2.1
Taylor	277	5.2.1
Taylor	263	5.2.2
Taylor	278	5.2.1
Taylor	271	5.2.1
Taylor	267	5.2.1
Trautmann	305	9.0
Trill	200	9.0

Last Name	Comment Number	GQ#
Valeriano	288	5.2.2
Valeriano	289	6.6.15
Valeriano	287	6.6.1
Valeriano	289	7.2.1
Valeriano	291	8.2
Valeriano	286	9.0
Valeriano	290	5.2.1
Valeriano	287	5.2.1
White	42	6.2.10
White	41	5.2.1
White	37	9.0
White	36	9.0
White	40	4.2.3
White	40	4.2.2
White	39	4.2.5
White	38	8.2
White	42	6.2.6
White	42	3.2.3
Wiggins	292	9.0
Wilson	72	9.0
Wohl	320	9.0
Wohl	319	9.0
Young R.S.	283	7.1.8
Young R.S.	283	6.1.17
Young R.S.	281	6.2.1
Young R.S.	282	6.6.10
Young R.S.	284	6.6.15
Young R.S.	285	8.4
Young R.S.	285	8.2
Young R.S.	284	7.2.1

Comments by Generalized Question

GQ	Comment ID	Last Name
2.1.1	48	Aldrich

Comment

Section 2.1 Background, p. 9; The draft CAP incorrectly implies that Asarco operations were largely responsible for releases of arsenic into the environment via air emissions from the smelter stacks. The history section should be expanded to reflect that Asarco operations were conducted only after an arsenic extraction facility was built at the smelter. Air emissions were much reduced during all of Asarco's operations because of the installation of a system of flues and other facilities and equipment designed to capture arsenic for resale rather than allowing it to escape into the environment.

GQ	Comment ID	Last Name
2.1.2	335	Glass

Comment

Exhibit 1, Land Use Map: the Everett Housing Authority multi-family housing west of Hawthorne Street is not shown correctly (compare EIS Figure 4-5, Which shows the correct multi-family residential land use for that area). This multi-family housing includes a large number of children, identified in the CAP as a sensitive subpopulation.

GQ	Comment ID	Last Name
2.1.2	360	Soine

Comment

Parks. Page 13, Zoning. The zoning map incorrectly shows Wiggums Park, Legion Park and Legion Golf Course as R-l zones. These are actually in Park zones.

GQ	Comment ID	Last Name
2.1.2	362	Soine

Comment

Section 2.3 and Table 2.1 The designation of the area as Southeast (of Broadway) is confusing in that the area is generally referred to as Northeast Everett.

GQ	Comment ID	Last Name
2.1.3	32	Enderlein

Comment

In its utility relocation project, the Public Utility District No. 1 of Snohomish County "generated" a moderate quantity of soils exceeding MTCA cleanup levels from pole excavations. The District also discovered that much of the vegetation removed to accommodate new line construction, such as branches from tree trimming, also contained arsenic at levels exceeding MTCA. ASARCO refused to take or dispose of the materials, and the District was forced to obtain its own contractor for their lawful disposal. We recommend the CAP expand on the scope in section 2.4 and address the extent of contamination associated with vegetation or indicate how this will be addressed in the future. The District has already commented on earlier draft "Large Soil Disposal Management Program" and will not repeat all of its comments here, except to say that the information in sections 6.7.5 and 6.7.6 appears to provide the outline of a viable and common-sense approach. We would suggest, however, that in both sections the scope become broadened to include soils and other materials, including slag, vegetation and other debris, which exceed MTCA cleanup levels for the smelter contaminants of concern.

GQ	Comment ID	Last Name
2.1.3	49	Aldrich

Comment

Section 2.4.1 Soil Contamination, p 15-16; The discussion of soil contamination in 2.4.1 refers specifically to only one arsenic soil concentration - a single measurement of 727,000 ppm. It does acknowledge that levels of arsenic diminish with distance from the smelter area, but for a more balanced and accurate description, the draft CAP should acknowledge that in the peripheral area arsenic levels are much lower and that much of the contamination the draft CAP addresses is in the 20 to 230 ppm range; i.e., below levels that required remediation at the Ruston/North Tacoma site.

GQ	Comment ID	Last Name
2.1.3	51	Aldrich

Comment

Section 2.4.2 Slag p. 16; Asarco disagrees that there is any need to separately address slag on the upland area, particularly in the absence of any demonstration of adverse health effects. If it is to be considered, the draft CAP should reflect that the City of Everett purchased and removed some of the slag for roadbed material and other uses.

GQ	Comment ID	Last Name
2.1.3	52	Aldrich

Comment

Section 2.4.3 Surface Water Contamination p. 17; The description of surface water contamination should acknowledge that there is no indication that runoff causes any exceedance of water quality standards in the Snohomish River.

GQ	Comment ID	Last Name
2.1.3	53	Aldrich

Comment

Section 2.4.4 Ground Water Contamination p. 17-22; The discussion of groundwater sampling puts undue emphasis on one groundwater sample taken in 1993, and fails to note that groundwater is not used for human consumption. The single sample is not a sufficient basis to conclude that there are "impacts to both Fill/Till and the Advance Outwash hydrogeological units." Ecology's characterizations of impacts to groundwater in the Fill/Till and the Advance Outwash are misleading in that the observed effects are located only at the eastern edge of the Upland Area. These effects were addressed in the Supplemental Investigation of the Lowland Area (Hydrometrics, July 1996) and are being evaluated in more detail in the ongoing studies of groundwater conditions at the Site.

GQ	Comment ID	Last Name
2.1.3	385	Glass

Comment

See CAP section 2.4.1, Soil Contamination, and Exhibits 2 and 3 (concentration contour maps): Exhibits 2 and 3 are, as stated, useful for presenting a general overview of the pattern of soil arsenic contaminant distribution across the site. To avoid any potential misinterpretation of those contour maps, the CAP should also state that the contour maps are based on very limited data (in comparison to the property-by-property sampling that will be performed as part of site cleanup actions): that they should not be assumed to provide good estimates for soil arsenic concentrations at individual properties; that the average concentration over the 0-18 inch depth interval may not reflect the true local heterogeneity in soil contamination levels. I believe the database from which these maps were prepared, although extensive, may also be missing some relevant site data (e.g., information from interim action sampling). The detailed property-by-property sampling in Ruston/North Tacoma in comparison to the RI-level sampling data summaries for that site demonstrate the limitations of figures such as Exhibits 2 and 3.

GQ	Comment ID	Last Name
2.1.4	54	Aldrich

Comment

Section 2.5 Feasibility Study, p. 22-24; Ecology's description of the Feasibility Study is misleading and incomplete. Most importantly, the FS did not merely conclude that an action level between 76 and 100 ppm was more cost effective, but rather that use of a 20 ppm cleanup level would violate Ecology regulations because the cost is clearly disproportionate to the benefit. See WAC 173-340-360(5)(d)(vi).

GQ	Comment ID	Last Name
2.1.4	55	Aldrich

Comment

Section 2.5 Feasibility Study; Asarco disagrees with Ecology's conclusion that the Sediment Cleanup Standard Users Manual is inappropriate for use in soil cleanups involving human health. The referenced guidance provides a method to evaluate whether cost differences between cleanup projects are significant and is applicable to the general evaluation process not just impact to the target organism. The method has applicability to the Everett Smelter Site in that it suggests that a cost difference is significant for large projects if the costs differ by a factor of 10%. Certainly the Everett project is a large project and the method of comparing alternatives is appropriate for soil cleanups such as the Everett Smelter Site as well as sediment cleanups.

GQ	Comment ID	Last Name
2.1.5	56	Aldrich

Comment

Section 2.7 Mediation Process, page 26; The description of the mediation process should include a description of Asarco's detailed written and oral presentations that Ecology's arsenic and lead cleanup levels are not consistent with current science and violate provisions of Ecology's own regulations. The draft CAP also fails to note that Ecology terminated the mediation after it concluded that it was unwilling to discuss alternative cleanup levels or further evaluate the continued viability of its cleanup standards promulgated in 1991. The draft CAP should also note that subsequent to pubic comment, Asarco proposed a "Framework to solution" before entering into mediation.

GQ	Comment ID	Last Name
2.1.6	341	Soine

Comment

At page 27, the statement "The City of Everett is not interested in maintaining more park/open space." is not correct. This statement was incorrectly contained in the Smelter Site Land Use Committee meeting notes for December 2, 1997. The statement was corrected in the meeting notes (page 2 of 17) for the December 12, 1997 meeting which were distributed on January 8, 1998 which correctly stated: "The City of Evereett is not interested in maintaining a park on this site due to environmental concerns and potential liability issues. The City of Everett is not interested in purchasing the property. This site is not in the park's master plan and does not fit within current plans for expanding the park system.

GQ	Comment ID	Last Name
3.1.1	440	Aldrich

Comment

Ecology did not follow its owns regulations and guidance in developing the Cleanup Action Plan. The MTCA regulation, and guidance documents prepared by Ecology interpreting it, establish a process for investigating a site and selecting a remedy if it is determined that there is a threat to human health or the environment from the presence of a hazardous substance at the site. In selecting a remedy, there are several factors that Ecology is directed to consider. In preparing the draft CAP containing the proposed remedy for Everett, Ecology has ignored these factors in direct contravention of its own regulation. Its entire analysis is premised on an assumption that 20 ppm as a cleanup and removal level is a "threshold" requirement that must be met regardless of cost, scientific validity, and whether or not it results in a net benefit to protecting human health. In fact, the threshold requirement of protecting human health and the environment can be met at a remediation and removal level well above 20 ppm arsenic.

GQ	Comment ID	Last Name
3.1.1	441	Aldrich

Comment

Once a potential "site" is discovered, a remedial investigation/feasibility study (RI/FS) is performed, Ecology evaluates the RI/FS, establishes cleanup levels, or remediation levels where appropriate, selects cleanup standards in accordance with the procedures in WAC 173-340-700 through -760, and selects a cleanup action or remedy that protects human health and the environment and that will meet the other requirements of WAC 173-340-360. WAC 173-340-120(4)(b). The regulation provides flexibility as well as opportunities, and in some cases requirements, to consider site-specific information. The final cleanup action that is selected may consist of several cleanup technologies, including, for example, on-site containment, soil removal, and institutional controls, that are triggered by the cleanup levels and remediation levels. WAC 173-340-700(2) - (4).

Once a cleanup level is selected (20 ppm arsenic in the draft CAP), the next step is the determination of the cleanup standard. Establishing cleanup standards for a site requires selection of the cleanup level ("hazardous substance concentrations that protect human health and the environment"), or remediation levels, points of compliance ("locations on the site where those cleanup levels must be met"), and any additional regulatory requirements that may apply at the site because of the type of action to be taken and/or the location of the site ("ARARs"). WAC 173-340-700(2)(a). One of these additional regulatory requirements is found in the soil cleanup standards section, WAC 173-340-740(1)(a): "In the event of a release of a hazardous substance, treatment, removal, and/or containment measures shall be implemented for those soils with hazardous substance concentrations which exceed soil cleanup levels based on this [residential] use... ." Ecology, however, has ignored that other provisions of MTCA, Part VII - Cleanup Standards not only qualify this sentence but establish equally applicable requirements that must be followed in setting the cleanup standard and selecting the appropriate cleanup action. WAC 173-340-700(2)(a) sets the stage for determining how, for example, the soil cleanup standards section, WAC 173-340-740(1)(a), should be used.

This part provides uniform methods state-wide for identifying cleanup standards and requires that all cleanups under the Act meet these standards. The actual degree of cleanup may vary from site to site and will be determined by the cleanup action alternative selected under WAC 173-340-360. (Emphasis added.)

Thus, although the cleanup standards provisions prescribe rules of general applicability, they are not absolutes. Instead, they are subject to site-specific factors and the cleanup action selection process. Further, WAC 173-340-700(7)(a) states that Part VII "shall be used in combination with" Section 360 - selection of cleanup actions. Although Method A may be used to establish cleanup levels, the regulations state, "Exceedances of the values in these tables do not necessarily trigger requirements for cleanup action under this chapter." WAC 173-340-704(4). Other provisions in Part VII establish "additional regulatory requirements" that go into the setting of the cleanup standard: 1) At most sites, several cleanup technologies or combinations of cleanup technologies may be used to comply with cleanup standards (WAC 173-340-700(2)(b)). It is appropriate to consider a representative range of technologies, as well as different combinations of technologies, "to accomplish the overall site cleanup." (WAC 173-340-700(7)(g)). 2) Other parts of this rule govern the process for planning and deciding on the cleanup action to be taken - requiring the identification of cleanup action alternatives in the FS and that WAC 173-340-360 specifies the criteria for selecting the preferred alternative. (WAC 173-340-700(2)(b)). 3) While cost is not a factor in determining the cleanup level, it may be appropriate for certain determinations related to cleanup standards and shall be considered when selecting an appropriate cleanup action. (WAC 173-340-700(7)(f)). 4) A remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action as long as certain conditions are met (WAC 173-340-700(7)(i)). 5) Institutional controls shall be required whenever a cleanup action results in residual concentrations of hazardous substances which exceed methods A or B cleanup levels. (WAC 173-340-702(4)).

Thus, while WAC 173-340-740(1)(a), regarding cleanup standards for residential areas, is a requirement, it is conditioned by site-specific factors, other portions of Part VII, and WAC 173-340-360, the selection of cleanup actions provision. It is also part of a regulatory process. WAC 173-340-740(1)(a) does not "trump" other provisions of the regulation - particularly WAC 173-340-360. Indeed, the regulations require that Section 700, the remainder of Part VII and WAC 173-340-360 "shall be used in combination." WAC 173-340-700(7)(a).

WAC 173-340-360 sets forth the requirements for selecting cleanup actions. It is a comprehensive section. It specifies the criteria for approving cleanup actions, the order of preference for cleanup technologies, policies for permanent solutions, the application of these criteria to particular situations, and the process for making these decisions. This section is intended to be used in conjunction with the cleanup standards defined in WAC 173-340-700 through 173-340-760 and the administrative principles for the overall cleanup process (WAC 173-340-130). (WAC 173-340-360(1)). (Emphasis added.)

Pursuant to WAC 173-340-360, cleanup actions must: protect human health and the environment; comply with cleanup standards; comply with applicable state and federal laws; provide for compliance monitoring; use permanent solutions to the maximum extent practicable; provide for a reasonable restoration time frame; and, consider public concerns.

WAC 173-340-740(1)(a) is part of the cleanup standard requirement; however, it is subject to modification on a site-specific basis both as a result of the language in Part VII itself (as outlined above) and by WAC 173-340-360. In particular, the use of "permanent solutions" such as treatment and removal, while a preference in this rule, "may not be practicable for all sites" and is limited to "permanent solutions to the maximum extent practicable." Seven criteria are used to determine "permanent to the maximum extent practicable": overall protectiveness; long-term effectiveness; short-term effectiveness; permanent reduction of toxicity, mobility and volume of the hazardous substance; implementability; the degree to which community concerns are addressed; and, cleanup cost. These are not a hierarchy, but merely criteria to be considered in determining whether a remedy is permanent. Specifically, "a cleanup action shall not be considered practicable if the incremental cost of the cleanup action is substantial and disproportionate to the incremental degree of protection it would achieve over a lower preference cleanup action." The requirement in WAC 173-340-740(1)(a) is, therefore, subject to the site-specific criteria established in WAC 173-340-360(5), including the cleanup cost test.

Reading Part VII and Section 360 "in combination" and "in conjunction," it is evident that the regulations allow flexibility on a site-specific

basis for selecting a range of cleanup actions and technologies for varying levels of arsenic concentrations, in this case, above the selected cleanup level. Assuming that all of the criteria in WAC 173-340-360(5) are met, as well as the rest of WAC 173-340-360, the MTCA regulations would allow soil removal to be triggered by a level higher than the cleanup level (i.e., a remediation level), and would allow for the use of other cleanup technologies from WAC 173-340-360(4) for remaining soils above the cleanup level. This conclusion is supported not only by the language of Section 360 but also by the provisions in Part VII referenced above, including those that specify that a combination of technologies may be used and that a remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action.

GQ	Comment ID	Last Name
3.1.1	443	Aldrich

Comment

In preparing the draft CAP, Ecology should have followed the process outlined above. However, Ecology did not utilize its own regulations and guidance available for selecting a remedy at Everett. The draft CAP contains numerous examples of this failure by Ecology, including the following: 1) Ecology defines the policies and principles that Ecology is to utilize "to ensure that cleanup standards...are established and implemented in a scientifically and technically sound manner," at WAC 173-340-702. One of these principles is that Ecology shall consider "new scientific information" when establishing cleanup levels for a site. WAC 173-340-702(6). However, in spite of this directive in its own regulation, Ecology has failed to appropriately consider any new science as the basis for selecting a remediation level for the 0 to 12 inch depth interval at the site. It also ignored the relevant scientific information in setting cleanup levels for soils below 12 inches. See Sections E and F. 2) A remedy may not be practicable if a substantial and disproportionate cost analysis demonstrates that a lower cost alternative is equally protective. However, Ecology selected a remedy without performing a comprehensive substantial and disproportionate analysis of the proposed cleanup action. In fact, there is no substantive discussion of overall cost to be found anywhere in the draft CAP. Ecology has ignored its own regulatory requirement to consider the cost of a remedy. See Section B and Attachments H-1 and H-2.
Ecology concluded that selection of a 20 ppm arsenic cleanup level is a threshold requirement that must be met in the 0 to 12 inch depth interval even if implementation of the remedy of digging and hauling all soils with concentrations of arsenic above 20 ppm would lead to a net increase in human health risk. WAC 173-340-706 allows the use of Method C cleanup levels in lieu of Method A or B when attainment of Method A or B has the potential for creating a significantly greater overall threat to human health than attainment of Method C levels. Ecology's own data demonstrates that attainment of a 20 ppm arsenic cleanup level will cause a net increase in human health risk, yet Ecology has failed to apply the flexibility its own regulation permits. See Attachment H-3.

GQ	Comment ID	Last Name
3.1.2	130	Aldrich

Comment

Section 3.1 MTCA Requirements p. 31-34; The discussion of MTCA regulatory requirements is both inaccurate and incomplete. Significant omissions include: failure to note that Ecology must consider new scientific information when setting cleanup levels, WAC 173-340-703(6) and should consult with EPA and SAB when appropriate; failure to note that Ecology should use Method C when human health impacts from using Method A or B cleanup levels will result in significantly greater threats to human health; failure to note that Ecology is in breach of the statutory and regulatory command to update its cleanup standards no less frequently than every five years; and failure to note that Ecology should not approve cleanups where the cost is substantial and disproportionate to the incremental degree of protection achieved. WAC 173-340-360(d)(vi).

GQ	Comment ID	Last Name
3.2.1	133	Aldrich

Comment

Section 3.2 Waste Classification p. 34-37; In the second bullet on page 37, the draft CAP inaccurately paraphrases the definition of "problem waste" set forth in WAC 173-304-100 by stating that "soils containing arsenic concentrations between the cleanup level for soil (20 ppm) and the dangerous waste concentration (3000 ppm) are problem waste if removed during the cleanup (WAC 173-304-100)." It is incorrect to suggest that the "cleanup" level is the basis for determining a problem waste. There is no mention of "cleanup level" in the definition of problem waste. Instead, problem waste is defined in relevant part as "(a) Soils removed during the cleanup of a remedial actions site …and which contain harmful substances but are not designated dangerous wastes…" The soil cleanup level established under the MTCA regulations is not synonymous with soil containing a harmful substance. This is particularly the case when the cleanup level is set at the background level (the level at which people live without effect). Indeed, even the MTCA regulations themselves indicate that cleanup is not necessarily triggered by the presence of substances in soil with concentrations above the Method A cleanup level (suggesting that substances at the Method A cleanup level are not per se "harmful"). See WAC 173-340-704(4). As shown elsewhere in these comments and attachments, arsenic in soil at levels of 20 ppm is not a "harmful substance." Soil removed during the cleanup will not constitute "problem waste" until the concentration of arsenic in the excavated soil constitutes a harmful substance. The soil with arsenic concentrations below a level that constitutes a harmful substance is not regulated under Washington law.

GQ	Comment ID	Last Name
3.2.1	134	Aldrich

Comment

Section 3.3.1 of the draft CAP states that the section discusses selected requirements from the Minimum Functional Standards for Solid Waste Handling, Ch. 173-304 WAC. As noted, only soil that contains "harmful substances" is a "problem waste" regulated by Ch. 173-304 WAC. To the extent that soil contains arsenic at the cleanup level (background level) or other non-harmful levels, the site is not subject to WAC 173-304 or any other Washington State statute or regulation. Since such no-harmful soil is unregulated and not subject to WAC 173-304, the provisions of the Minimum Functional Standards do not apply and therefore are not "requirement' for the Everett Smelter Site.

GQ	Comment ID	Last Name
3.2.2	135	Aldrich

Comment

Section 3.3.1; At whatever arsenic concentration the soil is found to contain harmful substances and therefore constitutes a "problem waste," the Minimum Functional Standards that do apply and thus are "requirements" under WAC 173-304 are not those provisions cited in the draft CAP. The draft CAP states that WAC 173-304-460 provides the Minimum Functional Standards that govern the landfill requirements of the soil at issue at the Everett Smelter Site. However, to the extent that soils at the Everett Smelter Site are a "problem waste" as defined in WAC 173-304-100, Section 460 specifically does not apply. The regulations specify that "the standards of WAC 173-304-405 through 173-304-490 [inclusive of 460]…apply to all solid waste handling facilities except for:… (d) Problem wastes as defined in WAC 173-304-100." Therefore, the draft CAP incorrectly references certain sections of the WAC as requirements when the WAC itself unambiguously and explicitly state that these are not requirements for problem waste. The exclusion of problem waste from the provisions and requirements of WAC 173-304- 405 through 490 is logical when read in the context of the remainder of the Minimum Functional Standards. First, as noted above, problem waste is defined as relevant in part as including only soil removed during a cleanup. Soil is not a putrescible or liquid waste and therefore does not present liquid, leachate or gas generation problems associated with other types of solid waste. Moreover, the Minimum Functional Standards contain a separate section designated "Problem waste landfills" (WAC 173-304-463). Although this section of the regulations is reserved and no specific requirements have yet been promulgated by Ecology, it is clear that the regulations distinguish between and regulate differently problem waste landfills and other solid waste landfills. Thus, although some engineering and closure plans likely will be required to the extent that a problem waste landfill is created at the Everett Smelter Site, the provisions of WAC 173- 304-460 cited in the draft CAP are not "requirements" and thus cannot be deemed to be applicable, relevant or appropriate to soil at the Everett Smelter Site.

GQ	Comment ID	Last Name
3.2.2	436	Aldrich

Comment

Ecology misinterpreted and misapplied its solid waste and dangerous waste regulations. In at least two instances, Ecology premised its cleanup action decisions on patently incorrect legal conclusions. In the draft CAP, Ecology concluded that provisions of WAC 173-304 and WAC 173-303 were relevant and appropriate legal requirements applicable to the Everett Smelter Site. In both cases, however, these provisions, by their own terms, do not apply to the cleanup activities prescribed for the Everett Smelter Site in the draft CAP.

GQ	Comment ID	Last Name
3.2.2	437	Aldrich

Comment

With regard to WAC 173-304, Ecology states that two of the landfilling standards set forth in WAC 173-304-460 are "requirements" that are applicable, relevant and appropriate to creation of a "problem waste" consolidation facility in the Former Arsenic Trioxide Processing Area. This statement is completely incorrect: the regulations themselves specifically exempt "problem waste" from the landfilling standards of WAC 173-304-460 (See WAC 173-304-400: "The standards of WAC 174-304-405 through 173-304-490 [inclusive of 460] . . . apply to all solid waste handling facilities except for: . . . (d) Problem wastes as defined in WAC 173-304-100") (emphasis added). Thus, all of the landfilling standards of Section 460 of Ch. 173-304 that are imposed by Ecology in the draft CAP are founded on a misapplication of the law and are not legally supportable.

GQ	Comment ID	Last Name
3.2.2	439	Aldrich

Comment

As stated in greater detail in Section B of this comment letter, the unambiguous exemptions from WAC 173-304-460 and WAC 173-303-282 for problem waste and cleanup activities, respectively, are both explicit and logical in light of other regulatory provisions and policies (including Ecology's Area of Contamination Policy) that are applicable to the cleanup of the Everett Smelter Site. Ecology cannot choose to ignore the prerequisite that, for a regulatory provision to be relevant or appropriate, it must be a legally applicable requirement. Where a regulatory provision by its express terms is exempt and does not apply to a situation, Ecology cannot disregard the law and impose the provision as a binding requirement in that situation.

GQ	Comment ID	Last Name
3.2.2	445	Aldrich

Comment

In addition, the draft CAP selectively applies only certain of the requirements of WAC 173-304-460. This section of the regulations requires solid waste facilities (excluding, among other things, problem waste landfills) to comply with a number of landfilling design and operational standards, including those relating to minimization of liquids, leachate control, gas control, and other standards unique to operating landfills, such as requirements relating to weighing waste on scales, hours the site is open for public use, and full-time employee facilities. The draft CAP suggests that only the liner and closure requirements of Section 460 apply to the Everett Smelter Site. This selective application of the regulations appears to recognize the fact that a landfill created as part of a cleanup that will contain only problem waste and will be permanently closed upon completion of the cleanup is not analogous to an operating solid waste landfill. This recognition is consistent with the exception contained in WAC 173-304-400 which specifies that Section 460 does not apply to problem waste.

GQ	Comment ID	Last Name
3.2.3	24	Robison

Comment

Regarding the 3000 ppm arsenic to be left in the consolidation area, that number must be firm, and not dependent on TCLP testing, which might allow a higher number.

GQ	Comment ID	Last Name
3.2.3	42	White

Comment

The DCAP proposes that soils with contaminants as high as 3000 ppm be left at the Smelter site. In fact, the DCAP is unclear as to whether levels even higher than 3000 ppm might be permissible, depending upon the results of TCLP testing. The DCAP, in essence, calls for the Smelter Site to be the dumping ground for lower level contaminants being removed from throughout north Everett. This decision necessitates the abandonment of the smelter site as a wasteland in the midst of our neighborhood. Ecology acknowledges this in one of the DCAP's more inappropriate sections which states "If no use has a planned construction start date within one year of closure, an aesthetically pleasing fence which meets the approval of citizens will be constructed." (p. 93) While we are grateful that the barbed wire will come down, we cannot agree that the Smelter Site can be left in a condition such that Ecology insists that it be fenced off. If the proposed Consolidation Facility is safe and will withstand storms and earthquakes for hundreds of years, why is it not safe for children to play on? Why must it be fenced off and sit as an eyesore within this residential area?

GQ	Comment ID	Last Name
3.2.3	120	Ryan

Comment

The (terms) "hazardous waste" or ">3000 ppm" need to be clear and not used interchangeably. It is clear that ASARCO feels it can do a TCLP test and that the results would be considerably higher. It is not acceptable to leave this door open and potentially leave higher concentrations in the fenced area. We do not feel that any concentration over 3000 should be at any depth.

GQ	Comment ID	Last Name
3.2.3	132	Aldrich

Comment

Section 3.2 Waste Classification p. 34-37; In the first bullet on page 37, the draft CAP refers to analytical site data to conclude that 3,000 ppm is the concentration at which soil fails the TCLP test. However, 3000 ppm is not an exact number. Instead, it is a conservative estimate based on the 95% UCL. Characterization of excavated materials should be based on the TCLP test as performed on the excavated soil. Soils with concentrations higher that 3,000 ppm may not fail the TCLP standard for arsenic and, if not, would not designate as dangerous waste.

GQ	Comment ID	Last Name
3.2.3	151	Aldrich

Comment

Section 5.4. Selection of Cleanup Action Alternative. pages 67-70 This section discusses the On-Site Containment versus Consolidation alternatives, but does not identify the costs or environmental consequences of either. The draft CAP simply chooses the latter based on a technical misreading of the State's Dangerous Waste Regulation (see above discussion at Sections 3.2 and 3.3 and below) and irrelevant references to the Hazardous Waste statute (RCW 70.105.035) and Ecology's AOC Policy. The draft CAP states that the waste proposed for disposal in an On-Site Containment Facility (OCF) is not covered by the exemption under RCW 70.105.035. This is irrelevant for purposes of determining whether an OCF may be located in the Former Arsenic Trioxide Processing Area. Even assuming the material at the Everett Smelter Site is dangerous waste and not exempt from the requirements of RCW 70.105, the implementing regulations for that law (WAC 173-303) specify that the siting criteria for dangerous waste landfills do not apply to the handling and consolidation of dangerous waste in the context of a MTCA cleanup. As in Section 3.3.2, Section 5.4 of the draft CAP cites the Dangerous Waste Regulations siting criteria for dangerous waste landfills, 173-303-282 (specifically that dangerous waste management facilities must be located at least 500 feet from the nearest point of the facility property boundary and the facilities must be at least one-quarter mile from residences). These siting criteria, as discussed above, specifically do not apply to sites being cleaned up under MTCA pursuant to a consent decree, agreed order, enforcement order or by Ecology itself. Thus, the statement that the site "meets none of these requirements" incorrectly concludes that these siting criteria are "requirements" under the law. Since, by their express terms, these provisions of the Dangerous Waste Regulations do not apply to the Everett Smelter Site, these criteria are not requirements and cannot be imposed by Ecology. Ecology cannot ignore its own regulations that, for logical reasons, expressly are made not applicable to a cleanup such as at the Everett Smelter Site. Although the draft CAP, at page 68, notes that both RCW 70.105.035 and Ecology's AOC Policy grant Ecology the ability to "determine that any substantive requirement of the Dangerous Waste Regulations are relevant and appropriate requirements," these provisions assume, and the prerequisite that must be met, is that the substantive provisions of the Dangerous Waste Regulations are, in fact, "requirements" under the law. The references relating to ARARs in 70.105.035 and in Ecology's AOC Policy cannot be read to allow Ecology to apply portions of the Regulations that, by their own explicit terms, do not apply and therefore are not relevant or appropriate. Ecology's conclusion on page 68 of draft CAP that landfilling dangerous waste (in an OCF) within the Former Arsenic Trioxide Processing Area fails to comply with "applicable or relevant and appropriate provisions of the Dangerous Waste Regulation regarding siting requirements" is a patently incorrect legal conclusion. The italicized language that justifies this conclusion contained in subparagraphs (a) through (i) on pages 68-69 compounds this legal error by repeating the incorrect assertion that the Dangerous Waste Regulations siting criteria apply to and prohibit a dangerous waste OCF at the Former Arsenic Trioxide Processing Area. As noted in comments on Section 3.2, the characterization of Dangerous Waste should be based on the TCLP test rather than setting the value at 3,000 ppm arsenic based on a statistical analysis of data. The Ecology approach will result in soils being unnecessarily handled and disposed of as Dangerous Waste. Asarco's analysis is that an On-Site Containment Facility containing soils with arsenic above 3,000 ppm would be protective of human health and would also comply with ARARs and Ecology's AOC Policy. Construction of an appropriate cap to prevent direct contact with materials would be readily implemented and has been done in other similar sites (see discussion of Murray Smelter Site in comments on Section 4.1.2). A suitable cap with appropriate land use and institutional controls would provide protection of human health and the environment.

GQ	Comment ID	Last Name
3.2.3	166	Aldrich

Comment

Section 7.2.1.2 Former Arsenic Trioxide Processing Area. pages 104-105; Under Ecology's proposed approach, the 3,000 ppm estimate is already based on a 95% UCL. Asarco believes that it is not appropriate to perform the UCL twice. Also, as noted previously, the definition of material to be removed under the Ecology alternative should be based on TCLP testing, not on a soil concentration of 3,000 ppm. The approach described in this section should be rewritten to address the appropriate testing procedure.

GQ	Comment ID	Last Name
3.2.3	372	Glass

Comment

See page 70: Ecology notes that the dangerous waste criterion of 3,000 ppm arsenic (TCLP failure criterion) is in the midpoint of the DOH-identified range of concentrations that could result in death for sensitive populations. The CAP states that leaving greater than 3,000 ppm arsenic would not be protective for possible severe acute effects in the event that containment was lost. I note that the DOH range cited is in fact a range for effects, not no effects; the no-effects concentrations are derived by DOH dividing by an uncertainty factor of 10. The DOH no-effects range is substantially lower than the 3,000 ppm criterion proposed in the CAP for removal of materials in the smelter fenced area. Thus, materials below 3,000 ppm arsenic could, if released in the future, pose some risk of severe acute health effects to sensitive individuals by the DOH analysis. The 3,000 ppm criterion does not represent a level below which there are no risks of severe acute effect

GQ	Comment ID	Last Name
3.2.3	373	Glass

Comment

Other discussions in the CAP (see EIS page A3-14) suggest that the 3,000 ppm arsenic criterion for removal of materials from the smelter fenced area is not a firm value but rather is a default value that could be changed if further TCLP (designation) testing was performed. ASARCO has noted earlier, with respect to its TCLP criterion evaluations the further testing of specific materials may be performed (see letter of July 12, 1996 to D. Nazy from T. Aldrich, Appendix F in Smelter Area Investigation report). Ecology should clarify in the CAP whether the 3,000 ppm arsenic criterion is based solely on TCLP failure and hazardous waste designation, and is therefore subject to modification based on additional testing, or whether it is also based on protectiveness for acute health effects and is a firm value. If materials above 3,000 ppm arsenic can be tested and left at the smelter fenced area as long as they do not fail the TCLP test, then the analysis of potential long-term acute health threats should be modified to reflect greater long-term risks if containment is lost.

GQ	Comment ID	Last Name
3.2.4	136	Aldrich

Comment

Section 3.3.2 of the draft CAP, like its preceding section, incorrectly interprets and applies state law; in this case with respect to WAC 173-303-282, the siting criteria pertaining to dangerous waste management facilities. As in the Minimum Functional Standards, the Dangerous Waste Regulations contain an express statement as to when the siting criteria do not apply: WAC 173-303-282 (the siting criteria section) "does not apply to: ... (iii) Persons at facilities conducting on-site cleanup of sites under ... chapter 70.105D RCW [MTCA) provided the cleanup activities are being conducted under a consent decree, agreed order, or enforcement order, or is being conducted by the department [of Ecology]." WAC 173-303-282(2)(b). This exception, like the exception for problem waste contained in the Minimum Functional Standards, not only is explicit and unambiguous but also is logical in that a containment facility containing dangerous waste that is created as part of a cleanup and is permanently closed upon completion of the cleanup is not analogous to and does not present the risks and concerns associated with an active, operating landfill designed and maintained for the ongoing management of dangerous waste for an extended period of time.

GQ	Comment ID	Last Name
3.2.4	137	Aldrich

Comment

Each of the locational restrictions of WAC 173-303-282 that are cited in section 3.3.2 of the draft CAP, by the terms of the regulations themselves, do not apply to and, thus, are not “requirements" governing the dangerous waste at the Everett Smelter Site (as opposed to an operating dangerous waste management facility). And since the siting criteria in WAC 173-303- 282 are not requirements, they cannot be found to be applicable or relevant to the creation of a remedial action on-site containment facility at the Everett Smelter Site. This conclusion is supported by Ecology's own Area of Contamination (AOC) Policy which is applicable to, and was designed to address situations like the cleanup at the Everett Smelter Site. The AOC Policy pertains specifically to the handling and consolidation of dangerous waste in a single area in the context of a remedial action. This is contrasted with the siting criteria of the Dangerous Waste Regulations which explicitly do not apply to cleanup actions which, by their nature, do not present the same concerns as a long-term, active landfill designed for ongoing operations management of dangerous wastes.

GQ	Comment ID	Last Name
3.2.4	151	Aldrich

Comment

Section 5.4. Selection of Cleanup Action Alternative. pages 67-70 This section discusses the On-Site Containment versus Consolidation alternatives, but does not identify the costs or environmental consequences of either. The draft CAP simply chooses the latter based on a technical misreading of the State's Dangerous Waste Regulation (see above discussion at Sections 3.2 and 3.3 and below) and irrelevant references to the Hazardous Waste statute (RCW 70.105.035) and Ecology's AOC Policy. The draft CAP states that the waste proposed for disposal in an On-Site Containment Facility (OCF) is not covered by the exemption under RCW 70.105.035. This is irrelevant for purposes of determining whether an OCF may be located in the Former Arsenic Trioxide Processing Area. Even assuming the material at the Everett Smelter Site is dangerous waste and not exempt from the requirements of RCW 70.105, the implementing regulations for that law (WAC 173-303) specify that the siting criteria for dangerous waste landfills do not apply to the handling and consolidation of dangerous waste in the context of a MTCA cleanup. As in Section 3.3.2, Section 5.4 of the draft CAP cites the Dangerous Waste Regulations siting criteria for dangerous waste landfills, 173-303-282 (specifically that dangerous waste management facilities must be located at least 500 feet from the nearest point of the facility property boundary and the facilities must be at least one-quarter mile from residences). These siting criteria, as discussed above, specifically do not apply to sites being cleaned up under MTCA pursuant to a consent decree, agreed order, enforcement order or by Ecology itself. Thus, the statement that the site "meets none of these requirements" incorrectly concludes that these siting criteria are "requirements" under the law. Since, by their express terms, these provisions of the Dangerous Waste Regulations do not apply to the Everett Smelter Site, these criteria are not requirements and cannot be imposed by Ecology. Ecology cannot ignore its own regulations that, for logical reasons, expressly are made not applicable to a cleanup such as at the Everett Smelter Site. Although the draft CAP, at page 68, notes that both RCW 70.105.035 and Ecology's AOC Policy grant Ecology the ability to "determine that any substantive requirement of the Dangerous Waste Regulations are relevant and appropriate requirements," these provisions assume, and the prerequisite that must be met, is that the substantive provisions of the Dangerous Waste Regulations are, in fact, "requirements" under the law. The references relating to ARARs in 70.105.035 and in Ecology's AOC Policy cannot be read to allow Ecology to apply portions of the Regulations that, by their own explicit terms, do not apply and therefore are not relevant or appropriate. Ecology's conclusion on page 68 of draft CAP that landfilling dangerous waste (in an OCF) within the Former Arsenic Trioxide Processing Area fails to comply with "applicable or relevant and appropriate provisions of the Dangerous Waste Regulation regarding siting requirements" is a patently incorrect legal conclusion. The italicized language that justifies this conclusion contained in subparagraphs (a) through (i) on pages 68-69 compounds this legal error by repeating the incorrect assertion that the Dangerous Waste Regulations siting criteria apply to and prohibit a dangerous waste OCF at the Former Arsenic Trioxide Processing Area. As noted in comments on Section 3.2, the characterization of Dangerous Waste should be based on the TCLP test rather than setting the value at 3,000 ppm arsenic based on a statistical analysis of data. The Ecology approach will result in soils being unnecessarily handled and disposed of as Dangerous Waste. Asarco's analysis is that an On-Site Containment Facility containing soils with arsenic above 3,000 ppm would be protective of human health and would also comply with ARARs and Ecology's AOC Policy. Construction of an appropriate cap to prevent direct contact with materials would be readily implemented and has been done in other similar sites (see discussion of Murray Smelter Site in comments on Section 4.1.2). A suitable cap with appropriate land use and institutional controls would provide protection of human health and the environment.

GQ	Comment ID	Last Name
3.2.4	436	Aldrich

Comment

Ecology misinterpreted and misapplied its solid waste and dangerous waste regulations. In at least two instances, Ecology premised its cleanup action decisions on patently incorrect legal conclusions. In the draft CAP, Ecology concluded that provisions of WAC 173-304 and WAC 173-303 were relevant and appropriate legal requirements applicable to the Everett Smelter Site. In both cases, however, these provisions, by their own terms, do not apply to the cleanup activities prescribed for the Everett Smelter Site in the draft CAP.

GQ	Comment ID	Last Name
3.2.4	438	Aldrich

Comment

Similarly, Ecology bases its decision to disallow an on-site containment facility (OCF) in the Former Arsenic Trioxide Processing Area on the incorrect legal conclusion that the siting criteria of the Dangerous Waste Regulations, WAC 173-303-282, are applicable, relevant and appropriate "requirements" governing the cleanup at the Everett Smelter Site. This conclusion again ignores the express provision of the regulations themselves that exempts on-site cleanup activities being conducted under MTCA from the siting criteria of WAC 173-303-282 (See WAC 173-303-282(b): "This section does not does not apply to: . . . (iii) Persons at facilities conducting on-site cleanup of sites under . . . chapter 70.105D RCW [MTCA] provided the cleanup activities are being conducted under a consent decree, agreed order or enforcement order or is being conducted by the department [of Ecology].") (emphasis added). As a result, all of Ecology’s decisions in the draft CAP that are premised on the alleged failure of an OCF to meet the siting criteria of WAC 173-303-282 cannot stand because they are based on a patently incorrect application of the law.

GQ	Comment ID	Last Name
3.2.4	439	Aldrich

Comment

As stated in greater detail in Section B of this comment letter, the unambiguous exemptions from WAC 173-304-460 and WAC 173-303-282 for problem waste and cleanup activities, respectively, are both explicit and logical in light of other regulatory provisions and policies (including Ecology's Area of Contamination Policy) that are applicable to the cleanup of the Everett Smelter Site. Ecology cannot choose to ignore the prerequisite that, for a regulatory provision to be relevant or appropriate, it must be a legally applicable requirement. Where a regulatory provision by its express terms is exempt and does not apply to a situation, Ecology cannot disregard the law and impose the provision as a binding requirement in that situation.

GQ	Comment ID	Last Name
3.2.4	446	Aldrich

Comment

Both the Dangerous Waste Regulations and the draft CAP note that "the purpose of the siting criteria is to immediately disqualify proposed dangerous waste facility sites in locations considered unsuitable or inappropriate for the management of dangerous wastes." (emphasis added). In light of the exception for cleanup activities, this purpose clearly is intended to address matters relating to active, ongoing management activities as opposed to one-time consolidation of dangerous waste.

GQ	Comment ID	Last Name
4.1	43	Aldrich

Comment

Asarco previously provided detailed comments and analysis to Ecology on the appropriateness of a 20 ppm arsenic and a 250 ppm lead residential soil cleanup level (HEWM, July 1998 "new science" submittal). At that time a cleanup action plan had not been identified by Ecology. Unfortunately, it is now clear that Asarco's comments and supporting submittal of new science were not appropriately considered by Ecology prior to the department identifying the same cleanup levels for arsenic and a similar lead cleanup level in the draft CAP. This information in the new science submittal is even more pertinent given that Ecology would have selected a remediation level well above 20 ppm arsenic for residential soil removal if the documents had been adequately reviewed and considered. For this reason Asarco has attached the prior new science submittal.

GQ	Comment ID	Last Name
4.1	44	Aldrich

Comment

The general body of information on the significance of a residential soil exposure pathway and specific information on arsenic toxicity do not support the Ecology-identified 20 ppm soil cleanup level for arsenic.

GQ	Comment ID	Last Name
4.1	45	Aldrich

Comment

The proposed 20 ppm arsenic cleanup level and corresponding sampling program for residential soils are inappropriately conservative and do not consider the potential for other urban sources of arsenic to influence residential soil concentrations.

GQ	Comment ID	Last Name
4.1	59	Lowery

Comment

Is my place safe for human beings? People continue to live in this neighborhood. Are they in danger of contamination?

GQ	Comment ID	Last Name
4.1	69	Newton

Comment

I have lived at the edge of the contaminated area for 32 years. My four children are healthy and we have all eaten produce from the garden for 32 years.

GQ	Comment ID	Last Name
4.1	89	Langabeer

Comment

I would urge that some flexibility should exist to make any changes indicated by new scientific information.

GQ	Comment ID	Last Name
4.1	104	Public Meeting Commentor

Comment

What are the health effects of low levels (20-100 ppm) of arsenic? What should we do? What shouldn't we do? What plants should we avoid planting? What health effects should we look for?

GQ	Comment ID	Last Name
4.1	112	Ryan

Comment

The remediation levels are generally acceptable. However, the actual figures should be set by the State Department of Health figures as well as a cost/benefit analysis. I believe 500 ppm may be high to leave in areas near 24" from the health considerations of arsenic levels of that magnitude. Can a lower figure (150 ppm x 2 = 300 ppm) be used without significantly increasing soil to be removed? What is your estimate of differences in cubic yards and costs between 300 and 500 max?

GQ	Comment ID	Last Name
4.1	130	Aldrich

Comment

Section 3.1 MTCA Requirements p. 31-34; The discussion of MTCA regulatory requirements is both inaccurate and incomplete. Significant omissions include: failure to note that Ecology must consider new scientific information when setting cleanup levels, WAC 173-340-703(6) and should consult with EPA and SAB when appropriate; failure to note that Ecology should use Method C when human health impacts from using Method A or B cleanup levels will result in significantly greater threats to human health; failure to note that Ecology is in breach of the statutory and regulatory command to update its cleanup standards no less frequently than every five years; and failure to note that Ecology should not approve cleanups where the cost is substantial and disproportionate to the incremental degree of protection achieved. WAC 173-340-360(d)(vi).

GQ	Comment ID	Last Name
4.1	138	Aldrich

Comment

Section 4.1.1 Method for Setting Cleanup Standards, pages 43-44; Asarco agrees with Ecology that Ecology's Method A lead level of 250 ppm is not appropriate and that the IEUBK model provides a superior approach. However, rather than collecting the necessary data, Ecology has approved the use of default values in the model to reach a cleanup level of 353 ppm. Instead, Ecology should collect the necessary data, and calculate a specific lead soil cleanup level that is specific and health-protective for this site. In fact, Ecology's default level is lower than EPA's lead screening level of 400 ppm, the level below which lead in soil need not be addressed or investigated further.

GQ	Comment ID	Last Name
4.1	139	Aldrich

Comment

Section 4.1.2 Soil pages 44-45; Ecology has failed to consider new scientific information in selecting a residential soil cleanup level for arsenic. Ecology's selection of a soil cleanup level of 20 ppm for residential soils is based on a studied refusal to consider new scientific information widely available in the peer-reviewed literature. This information shows definitively that remediation to soil background levels bears no reasonable or rational relation to protecting human health from any plausible cancer risk. Rather than conducting a scientific evaluation of actual human health risk, Ecology simply uses a single formula, the Method B formula set out in WAC 173-340-740(3)(a)(ii)(B), to determine cleanup levels for all residential properties and all carcinogens. (Method B drives selection of the cleanup level for arsenic because the formula yields a value below background, and Ecology defaults to background in that circumstance. Ecology's regulation sets 20 ppm as background for Washington soils). This cleanup level for arsenic is inconsistent with current scientific knowledge. Continued use of outmoded assumptions and analysis cannot be defended as a "policy decision." Use of bad science is not only unlawful under the provisions of MTCA and the State Administrative Procedures Act, but it is also inconsistent with the command of Ecology's own regulations that it consider new scientific information when setting cleanup levels. WAC 173-340-702(6). The regulations encourage Ecology to consult with EPA and the SAB in determining "how to use this new information." Ecology has failed to do so. The regulation does not authorize Ecology to reject new scientific information based on a "policy decision" that it is preferable to "err" on the side of caution. Protection of human health may provide justification for appropriate use of "conservative" assumptions, but neither that rationale, nor MTCA itself, sanction use of false assumptions.

GQ	Comment ID	Last Name
4.1	149	Aldrich

Comment

Section 5.3.1. Alternatives Evaluated. pages 58-59 The discussion in the draft CAP about alternatives fails to address critical issues regarding the relative impact of the alternatives and how adverse consequence could be avoided by alternate decisions. First, it assumes adverse impacts on public health from leaving soil at any level above 20 ppm, but does not identify these effects or discuss them. For example, the draft CAP fails to identify how many children live in the Former Arsenic Trioxide Processing Area and in the Peripheral Area. Of these, how many fall within the group of highly exposed and sensitive children that the cleanup is designed to protect? In other words, the soil ingestion assumptions are addressed to the 95 % UCL child who is assumed to ingest 200 mg of soil/day. Even under Ecology's assumptions, only approximately 5% of the total population of children in the area could fall in this category. Only these children are even theoretically at risk. Ecology has not identified or even estimated the number of such children. Without performing this analysis, Ecology is unable to weigh the purported benefit of cleanups at different levels to the remediation and transportation risks that have been documented, and which increase proportionately relative to the volume of soil excavated and removed to alternate locations. As Asarco has already demonstrated, the remediation risk factor alone requires use of Method C, rather than Method B under Ecology's regulations. See Section E. Because cleanup to 20 ppm will generate such a high volume of soil to be excavated and transported, the actual human health impacts from implementation of the remedy in terms of projected accidents will likely far exceed the theoretical risk from arsenic exposure. See Dr. Beck Statement in Section E. Second, as noted, the draft CAP does not identify the cost of the proposed remedy compared to alternatives. This is a critical omission which makes it impossible for Ecology to perform the "substantial and disproportionate" analysis required by WAC 1 73-340-360(5)(d)(vi).

GQ	Comment ID	Last Name
4.1	154	Aldrich

Comment

Section 6.2.1.1 Development of the Soil Removal and Containment Remedy. pages 72-84; The estimate of arsenic levels which are protective against acute effects in children used in the draft CAP contains a series of conservative assumptions, which taken together results in an unrealistic analysis. A detailed discussion of this issue is included in Section E.

GQ	Comment ID	Last Name
4.1	155	Aldrich

Comment

The draft CAP provides no basis for the selected cleanup levels at the 12-24 inch and 24 inch to 15 foot soil horizons. 1) As explained in Section E, the 60 ppm average and 150 ppm single hit standard bear no reasonable relationship to any significant human health effect. Moreover, the end points identified are transient health effects such as nausea and diarrhea. These effects are too minor and short-lived to justify the expense involved. 2) The draft CAP states that these cleanup levels were selected based on a cost analysis. No supporting information is provided, and the attachment (Attachment H-2) demonstrates that the selected remedy is not consistent with WAC 173-340-360 (Substantial and Disproportionate Analysis). In particular, the regulation requires the cost to be compared to the net additional protection achieved, compared to less expensive remedies. Ecology simply compared alternatives in terms of level expenditure without regard to the degree of health protection. By doing so, it attempted to mask the fact that no additional protection will be achieved by the 20 ppm cleanup level. 3) The draft CAP provides that a marker such as a geomembrane or coarse gravel layer shall be placed at the bottom of the excavated 0-12 inch horizon. Although this, by itself, will provide an institutional control that will greatly limit exposure to deeper soil horizons by small children, that factor is ignored in setting cleanup levels in soils deeper than 12 inches. 4) The draft CAP selects a cleanup level of 150 ppm, with no single sample to exceed 500 ppm, for the soil horizon from 24 inches to 15 feet. As explained in the attached review of Ecology's analysis of acute health effects, there is no credible evidence of human health effects at this level of exposure. Indeed, it is lower than the level that Ecology agreed was protective for surface soils at Ruston. 5) Ecology's selection of the cleanup levels below 12 inches is not consistent with its own regulations disallowing selection of remedies that impose costs that are substantial and disproportionate to human health risk reduction. 6) Ecology provides no evidence that exposure to 15 feet needs to be regulated at all. This exceeds any reasonable foundation excavation in a residential area: typical foundation and utility depth is around 4 feet; a full basement could go to a depth of 8 feet.

GQ	Comment ID	Last Name
4.1	158	Aldrich

Comment

Section 6.2.3 Maintenance Areas Not Normally Occupied. pages 90-91 As discussed in Section E, Ecology estimated the potential for acute health effects based on outdated scientific assumptions and then, by using a series of conservative assumptions, adding a safety factor of 10, resulting in an unrealistically low remediation level for acute exposures of 200 ppm (actually below the remediation level for residential use in Ruston).

GQ	Comment ID	Last Name
4.1	161	Aldrich

Comment

Section 6.7.8 Exposure Testing Program. page 99 Asarco has no objection to post-remediation urinary arsenic testing because urinary arsenic is, indeed, an accurate measure of arsenic exposure as Ecology admits in its Review of New Science. What is noteworthy is that Ecology has failed to evaluate such testing before the draft CAP was promulgated. As noted, testing of urinary arsenic levels in children by ATSDR shows that the levels are not elevated above normal. As a result, Ecology failed to evaluate what levels of exposure to arsenic in soil are now occurring and whether arsenic in soil is in fact actually being ingested. Having failed to conduct this evaluation, Ecology is not in a position to select the appropriate health-protective response.

GQ	Comment ID	Last Name
4.1	171	Aldrich

Comment

Schedule; EPA is now in the process of a national re-evaluation of the toxicity and carcinogenicity of arsenic. It is also considering revisions to the arsenic drinking water standard. As part of this process, EPA is re-evaluating the question of determining a threshold for arsenic health effects and other issues. Significant new information is coming to light about arsenic every month as a result of EPA's investigations and those of many additional scientists. EPA has deferred official action on arsenic until this review process is completed and it has postponed its reconsideration of drinking water standards for arsenic. Ecology is aware of these developments, but has chosen to ignore them. Rather than pushing forward aggressively at this pivotal threshold, Ecology should limit its cleanup activities to the most contaminated properties and defer any further action on the peripheral area until the arsenic evaluation process is completed. For example, there is a strong consensus among scientists that arsenic does not directly cause inheritable DNA damage and that arsenic carcinogenicity is not linear at low dose and likely displays a threshold below which it does not cause cancer. This means that cleanup to background is a complete waste of money that will have no beneficial effect in reducing cancer risk.

GQ	Comment ID	Last Name
4.1	172	Aldrich

Comment

Justification for Selection of Cleanup Action. Ecology's ultimate rationale for its Draft Cleanup Action Plan is institutional rather than health-based. Its key decision is that attainment of the cleanup level of 20 ppm is a "threshold" requirement that must be met regardless of lack of scientific merit and despite substantial and disproportionate cost compared to less expensive remedies that would fully protect human health. Remarkably, Ecology concludes that even the fact that implementation of its chosen remedy will result in a net increase in total human health risk is irrelevant.

GQ	Comment ID	Last Name
4.1	244	Aldrich

Comment

Inconsistency with cleanup levels approved at Ruston. Despite detailed submissions from Asarco on the Ruston smelter cleanup, the draft CAP contains no discussion or explanation of why a different cleanup level should be used at Everett than was used at the Ruston site. Indeed, the Ecology Review of "New Science" at 21 describes the Ruston site as having "conditions very similar to those at Everett." However, at the Ruston site, EPA, with Ecology's concurrence, selected a residential soil cleanup level of 230 ppm. Similarly, Ecology fails to explain why the 250 ppm cleanup level recently approved by EPA as protective of human health at the Anaconda Superfund site in Montana, is not protective at Everett. Asarco specifically requested Ecology to make this evaluation in its July 1998 submission.

GQ	Comment ID	Last Name
4.1	246	Aldrich

Comment

Human health risk from arsenic exposure. The draft CAP does not identify the number of persons at risk from exposure to arsenic in soil, surface water or groundwater, nor does it include any quantitative or qualitative assessment of the cancer risk. Instead, it simply assumes that soil levels above 20 ppm create "unacceptable" risk. There is no quantitative or qualitative comparison of the risks at 20 ppm to risks at alternate cleanup levels. As a result, the draft CAP does not, and cannot, as written, provide a basis to evaluate whether the remediation will result in a net increase in human health risk. That evaluation is required under MTCA and Ecology's regulations to insure that no remedy is selected that results in such a net increase in health risk. As explained in Asarco's detailed comments on Ecology's Review of the "new science" (Section E and Statement of Dr. Beck), this draft CAP, if implemented, will increase total human health risk by a substantial margin.

GQ	Comment ID	Last Name
4.1	247	Aldrich

Comment

Moreover, for the 12 inch to 24 inch soil horizon, Ecology has selected a soil cleanup level that is tailored to avoid a risk of temporary nausea or diarrhea that could arise in the unlikely event that a child 10 times more susceptible than a normal child consumed large volumes of soil. The draft CAP contains no discussion as to how short-term nausea or diarrhea can be appropriate health effects on which to base selection of a cleanup level, or what the appropriate cleanup level would be if serious health effects were considered. The cleanup level for 24 inches and deeper, set at 150 ppm arsenic, is purportedly based on an unreasonable risk of lethal effects from soil ingestion. Ecology fails to explain how it can reconcile that conclusion with its endorsement of 230 ppm at Ruston as protective for surface soils.

GQ	Comment ID	Last Name
4.1	252	Aldrich

Comment

Risk Assessment Guidelines. The draft CAP fails to evaluate whether EPA's new Risk Assessment Guidelines could be utilized to allow design of a cleanup that is both protective of human health, and consistent with current scientific knowledge about arsenic and its carcinogenicity. Instead, it simply assumes that all aspects of risk assessment are adequately addressed by its Method B formulas.

GQ	Comment ID	Last Name
4.1	325	Aldrich

Comment

As explained in Asarco's response to Ecology's Review of "New Science," numerous scientific studies demonstrate that elevated urinary arsenic levels are not observed even in populations with much higher levels of exposure. They clearly demonstrate that much higher cleanup levels, such as the 230 ppm Ruston level that Ecology has previously agreed to, are protective of human health. See Section E, Statements of Drs. Beck, Tsuji and Schoof. Follow-up monitoring at Ruston demonstrates that remediation of soils to a level of 230 ppm is sufficient to prevent elevation of urinary arsenic levels above normal.

GQ	Comment ID	Last Name
4.1	327	Aldrich

Comment

None of these consequences are necessary. Under its regulations, Ecology can consider disproportionate cost, can avoid negative impacts on human health, and could utilize new scientific information about arsenic to avoid these unfortunate effects. Asarco urges it to do so.

GQ	Comment ID	Last Name
4.1	383	Glass

Comment

The CAP notes that lead is identified as a probable human carcinogen (see page 111 and elsewhere), as EPA has noted based on results from animal studies. No cancer potency factors have been developed by EPA for lead. EPA notes substantial uncertainties regarding lead carcinogenicity data; if lead is in fact a carcinogen, it appears to be a weak one (low potency). The CAP should state that lead cleanup standards are evaluated based on non-cancer health effects (e.g., neurobehavioral toxicity), using blood lead levels as a biomonitoring indicator for those non-cancer effects.

GQ	Comment ID	Last Name
4.1	395	Glass

Comment

See page 74, MTCA equation for cancer risks and soil cleanup levels: Refer to the new science review document (M. Blum, January 26, 1999) response to comments on arsenic as a late-stage carcinogen (promoter rather than initiator) and an alternate calculation for adult exposure scenario and cancer risks. The resulting soil arsenic concentration at a calculated 1:1,000,000 cancer risk is still less than 20 ppm of an adult exposure scenario. The selected 20 ppm soil arsenic cleanup levels should be clearly identified as being based on background rather than calculated cancer risk. The calculation in WAC 173-340 based on childhood exposures will also be protective for adults, but both are below the selected background-based concentration of 20 ppm soil arsenic.

GQ	Comment ID	Last Name
4.1	398	Glass

Comment

See CAP Table 4-1, page 44: The listed, risk-based soil arsenic standard of 1.67 ppm includes use of a special default 40 percent bioavailability factor for ingested arsenic. The risk-based soil cleanup level would change if a different bioavailability factor was used. There are no site-specific studies for the Everett Smelter site of soil arsenic bioavailability in the various types of materials present. The basis for a 40 percent bioavailability factor for arsenic has been challenged, in both directions. See the recent DOH paper on acute health threats from arsenic and Ecology's new science review paper (M. Blum, January 26, 1999). Changing the bioavailability factor alone is unlikely to result in a risk-based soil arsenic standard exceeding 20 ppm, the default background (MTCA Method A) value.

GQ	Comment ID	Last Name
4.1	406	Aldrich

Comment

Ecology describes Everett as a "quintessential cleanup site." One would hope not. The draft CAP evidences a rigid adherence by Ecology to outdated modes of analysis reflected in regulations that were adopted in 1991 but which were based on EPA Guidelines set out in 1986. Those Guidelines are now more than 13 years old, and were rejected by EPA in 1996 when it published new proposed Risk Assessment Guidelines because the old Guidelines were no longer consistent with current scientific knowledge about carcinogenicity. Similarly, scientific knowledge about arsenic has evolved substantially since EPA published its cancer slope factor in 1988. The draft CAP is a function of an application of outdated regulations to a rapidly evolving scientific issue, with total disregard for recent and on-going scientific developments. This is not the time for precipitous action. Last summer, EPA declined to promulgate a health-based criterion for arsenic in surface water. It noted the number of issues and uncertainties about the health effects of arsenic arising from issues about arsenic exposure evaluation, metabolism and detoxification processes, analytical methods and effects at low doses. It announced that "EPA has determined that these issues and uncertainties are sufficiently significant to necessitate a careful evaluation of the risks of arsenic exposure before the Agency promulgates water quality criteria for arsenic ... ." 62 Fed. Reg. 42179 (Aug. 5, 1997). Ecology should exercise similar restraint, consult with EPA and its Science Advisory Board (SAB), and consider the new science on its merits to ensure that a scientifically-sound remedy is selected, rather than rejecting the new science as a matter of "policy."

GQ	Comment ID	Last Name
4.1	407	Aldrich

Comment

Consistent with its own regulations, it must also evaluate the cost of this cleanup relative to the marginal reduction in health risk, and consider the adverse effects of this extraordinary remediation itself on public health.

GQ	Comment ID	Last Name
4.1	408	Aldrich

Comment

Arsenic toxicity is not a new field of study. Arsenic is a trace element that occurs naturally in water, rock, soil and living organisms. Arsenic occurs naturally in many foods which often contain substantial amounts of inorganic arsenic. Knowledge of arsenic toxicity goes back to ancient times, as does its history of beneficial use as both a medicine and as a pesticide and herbicide. Because of its many historical uses, arsenic can often be found at elevated levels in soils. However, the most significant intake of inorganic arsenic typically is through food consumption. Drinking water is also an important source. Therefore, from a practical perspective, a fundamental issue for the Everett Smelter Site is how much additional arsenic intake might occur from ingesting soil, and at what level the additional exposure realistically would be a concern.

GQ	Comment ID	Last Name
4.1	409	Aldrich

Comment

In order to begin to evaluate this issue for Everett residential areas, three primary components of the standard equation for estimating potential risk must first be thoughtfully considered: 1) The amount of residential yard soil routinely ingested. 2)The amount of arsenic in the ingested soil that is actually available for absorption into human tissue (bioavailability). 3) The levels at which available arsenic may have negative effects on human health. First, with regard to the potential to ingest soil, Asarco has provided Ecology with a number of recent studies which indicate that ingestion of soil from yards is not nearly as substantial as Ecology assumes, particularly on a year-round long-term basis. Second, Asarco has also provided Ecology with studies in the "New Science" submittal in which arsenic bioavailability has been evaluated. See Attachment H-6. Several of those studies were recently conducted at other smelter sites and show that the bioavailability of arsenic in those soils is well below the values utilized by Ecology in its calculations for the Everett site. Third, once ingested, the next question is what level of available arsenic has toxic effects. Again, Asarco has provided Ecology with recent studies that reflect an increased understanding of arsenic toxicity and carcinogenicity. These studies point out that findings of elevated risks of cancer from high concentrations of arsenic in drinking water cannot be linearly extrapolated downward to predict cancer risk from soil ingestion at near-background levels, as Ecology has done. Nor is it appropriate to simply assume, without supporting evidence, that arsenic will have effects at low dose that are proportional to effects at high dose.

GQ	Comment ID	Last Name
4.1	410	Aldrich

Comment

Both the inappropriateness of attempting to extrapolate high-level effects to very low levels and the inability of a simple linear equation to define risk are evident in Ecology's response to Asarco's new science documents. On page 14 of its response, Ecology identifies 0.67 ppm arsenic (based on 100% bioavailability) or 1.67 ppm arsenic (based on 40% bioavailability), as the actual residential soil concentrations above which the method B risk equation defines concern. These concentrations are well below the USGS published mean value concentration of 5.5 ppm arsenic for soils across the western United States. According to Ecology's method B calculation of risk, therefore, the entire western United States contains soil concentrations that pose an unacceptable threat that is as high as roughly ten times Ecology's acceptable level. Essentially, Ecology's reliance on these calculated soil concentration values provides an operating assumption that the presence of any arsenic, even at natural levels, in soil is unacceptable. The body of science, as well as common sense, tells us that this is not the case.

GQ	Comment ID	Last Name
4.1	411	Aldrich

Comment

Ecology arrives at this entirely unrealistic assessment of risk by taking the most conservative position on the three variables identified above, along with other conservative assumptions. The net effect of each conservative assumption is multiplied in the simplistic linear equation used to calculate risk. (Ecology's regulation assumes that one formula is appropriate for all carcinogens, regardless of the biological mechanism through which they work.) Ecology's conservative assumptions on soil ingestion rates and bioavailability contribute to the generation of such unrealistic values; however, they are not nearly as important as the third variable, the level at which such negative effects supposedly occur.

GQ	Comment ID	Last Name
4.1	412	Aldrich

Comment

The critical flaw in Ecology's logic is the assumption that the method B equation is still valid even though the cancer potency factor is based on an inappropriate direct downward extrapolation of high concentration effects. Ecology assumes it can measure such effects from a generalized Taiwanese study that involved very high concentrations of arsenic in drinking water even though the study did not provide specific data on actual dose response relationships. Ecology relies on a flawed EPA attempt to estimate dose response to predict effects from exposure to near-background arsenic concentrations in residential soils. It does so even though EPA itself warns of the flaws and uncertainties in its arsenic analysis. Ecology should recognize that introducing the extrapolated toxicity values into the above described method B calculations inappropriately influences the output of the equation to such a degree that modification of the other parameters has little effect. Instead, Ecology simply assumes, without supporting evidence, that their calculations of risk are representative for low concentrations of arsenic in residential soils.

GQ	Comment ID	Last Name
4.1	413	Aldrich

Comment

It appears that Ecology must have understood that using the extrapolated cancer potency values in the method B equation has a similar effect to introducing zero as a multiple; no matter what reasonable adjustments are made to the other variables, the outcome of the equation remains the same. As shown by Ecology's calculations, reducing the bioavailability of arsenic in soils from 100% to 40% only results in a 1 ppm change in the acceptable arsenic concentration: 0.67 ppm versus 1.67 ppm, respectively. However, instead of addressing this issue, Ecology appears conveniently to ignore this logic in order to use the unrealistic method B calculated values of 0.67 and 1.67 to justify selection of the similarly low residential soil cleanup level of 20 ppm arsenic.

GQ	Comment ID	Last Name
4.1	415	Aldrich

Comment

At the many sites like Everett that exist around the country, the agencies responsible for making cleanup decisions recognize the limitations of a risk assessment process based exclusively on a linear extrapolation and use calculated estimates of risk along with other relevant information to make decisions about remedial activities. At the nearby Ruston/North Tacoma Site in Ruston, Washington, where estimates of risk were appropriately considered along with other project factors, a residential soil removal and replacement remediation level of 230 ppm arsenic was coupled with institutional controls for soils with concentrations of arsenic between 20 ppm and 230 ppm. Ecology accepted this value as protective of human health and, by necessary implication, as consistent with MTCA. (In fact, Ecology also notes in its Review of New Science that the Ruston Site is similar to Everett.) At the Bunker Hill Superfund Site in northern Idaho, where exhaustive evaluations of risk were conducted, a value of 100 ppm arsenic was selected not as a soil removal level, but as the acceptable arsenic concentration for clean soils being brought into the site to replace contaminated soils. At both of these sites, and many others, the full body of information on metals toxicity was examined and complemented by new information from those sites. In addition, the results of detailed risk assessments were considered along with the other fundamental factors discussed below to make risk-management decisions bearing on the selection of remediation levels and appropriate cleanup actions. Additional comments on those other important aspects of the remedy selection process are provided in the subsequent general comments.

GQ	Comment ID	Last Name
4.1	416	Aldrich

Comment

The proposed 20 ppm arsenic cleanup level and corresponding sampling program for residential soils are inappropriately conservative and do not consider the potential for other urban sources of arsenic to influence residential soil concentrations.

GQ	Comment ID	Last Name
4.1	425	Aldrich

Comment

Another important consideration when developing an approach for residential soil sampling is the concentration at which the cleanup or remediation level is set. As noted previously, the draft CAP identifies a default background concentration of 20 ppm as the level at which residential soil will be excavated and replaced with “clean” soil. Not only does this standard lack any reasonable relationship to protecting human health, but the proximity of the 20 ppm cleanup level to background raises additional problems as well. As noted above, because the 20 ppm value is so low, it is highly likely that a majority of the residential properties within the CPM, as well as a large number outside the CPM, will require remediation. Because exceedance of an arsenic cleanup or remediation level can be predicted for a large portion of the Site, based on existing data, a relatively simple and correspondingly inexpensive sampling approach would be the most appropriate for confirming the obvious in these areas.

GQ	Comment ID	Last Name
4.1	426	Aldrich

Comment

The fact that the removal level has been set far below the levels at which any observed effects from arsenic in soil have been documented is also an important consideration. Because the draft CAP cleanup and remediation levels are so low, the consequences of missing a small amount of contamination near those levels are minimal. Again, this perspective favors the development of a simple, but efficient, sampling methodology, rather than the costly and involved sampling approach provided in the draft CAP. (This is not to suggest, of course, that the 20 ppm cleanup level is appropriate.)

GQ	Comment ID	Last Name
4.1	443	Aldrich

Comment

In preparing the draft CAP, Ecology should have followed the process outlined above. However, Ecology did not utilize its own regulations and guidance available for selecting a remedy at Everett. The draft CAP contains numerous examples of this failure by Ecology, including the following: 1) Ecology defines the policies and principles that Ecology is to utilize "to ensure that cleanup standards...are established and implemented in a scientifically and technically sound manner," at WAC 173-340-702. One of these principles is that Ecology shall consider "new scientific information" when establishing cleanup levels for a site. WAC 173-340-702(6). However, in spite of this directive in its own regulation, Ecology has failed to appropriately consider any new science as the basis for selecting a remediation level for the 0 to 12 inch depth interval at the site. It also ignored the relevant scientific information in setting cleanup levels for soils below 12 inches. See Sections E and F. 2) A remedy may not be practicable if a substantial and disproportionate cost analysis demonstrates that a lower cost alternative is equally protective. However, Ecology selected a remedy without performing a comprehensive substantial and disproportionate analysis of the proposed cleanup action. In fact, there is no substantive discussion of overall cost to be found anywhere in the draft CAP. Ecology has ignored its own regulatory requirement to consider the cost of a remedy. See Section B and Attachments H-1 and H-2.
Ecology concluded that selection of a 20 ppm arsenic cleanup level is a threshold requirement that must be met in the 0 to 12 inch depth interval even if implementation of the remedy of digging and hauling all soils with concentrations of arsenic above 20 ppm would lead to a net increase in human health risk. WAC 173-340-706 allows the use of Method C cleanup levels in lieu of Method A or B when attainment of Method A or B has the potential for creating a significantly greater overall threat to human health than attainment of Method C levels. Ecology's own data demonstrates that attainment of a 20 ppm arsenic cleanup level will cause a net increase in human health risk, yet Ecology has failed to apply the flexibility its own regulation permits. See Attachment H-3.

GQ	Comment ID	Last Name
4.1	444	Aldrich

Comment

While Ecology states that it consulted with the SAB and EPA about the lead soil cleanup level, Ecology has apparently failed to consult with EPA and SAB concerning arsenic. This failure is striking because EPA is now in the process of a national arsenic re-evaluation that will include setting of new arsenic drinking water standards. There is no valid reason to ignore the body of information being developed by EPA as Ecology has done. Ecology's own SAB also would provide valuable peer review of Ecology's decisions regarding arsenic risk in soil.

GQ	Comment ID	Last Name
4.1	447	Aldrich

Comment

With respect to arsenic, the use of regulatory defaults rather than the use of site-specific information will result in lead cleanup levels that are unduly expensive and bear no reasonable relation to protection of human health risk.

GQ	Comment ID	Last Name
4.1	448	Aldrich

Comment

In particular, with respect to arsenic, Asarco made a detailed submission in July 1998 that: 1) Ecology's formula is based on EPA's 1986 cancer risk assessment guidelines which EPA has now rejected as no longer consistent with current science. The default assumptions of low dose linearity and of the lack of a threshold below which no effects occur is appropriate only for a limited class of carcinogens, called initiators that directly cause inheritable DNA damage. Arsenic is not such a chemical. 2) Arsenic is not a cancer initiator and does not cause inheritable DNA damage. There is no known biological mechanism by which arsenic could have the linear no-threshold effect that Ecology and the Method B formula assume. Therefore, there is no plausible biological basis for the assumptions used. 3) EPA's 1988 cancer slope factor for arsenic is unreliable and cannot be used for quantitative risk assessment. The assumed levels of exposure and rate of cancer incidence are now understood to be inconsistent with actual exposures and cancer incidence experienced among the Taiwanese population on which the calculations are based. The cancer slope factor used in Ecology's formula bears no reasonable relation to arsenic's actual cancer potency and both overstates the risk at low dose and understates the risk at high dose, rendering its use in the Ecology formula inappropriate. (EPA's IRIS database now discloses the uncertainty about use of the cancer slope factor.) In addition, the database indicates that the Taiwan data is likely inapplicable to the U.S. population because of differences in diet between the populations and exposure to other chemicals in Taiwanese drinking water. 4) Arsenic is a demonstrated essential element in animals and there is strong evidence that it is likely essential to humans as well. Ecology's Method B formula postulates that unacceptable risks to human health occur from daily exposure to levels that are less than the likely essential dose required to maintain good health. This conclusion is not rational. Moreover, Ecology completely ignores recent evidence that indicates that arsenic can act as an anti-carcinogen. 5) Humans methylate inorganic arsenic to organic forms that are quickly excreted through urine. Current science views this as a de-toxifying mechanism that is inconsistent with the view that any arsenic exposure is potentially harmful, the assumption built into the Method B formula. This also indicates that there is likely a threshold below which arsenic does not increase cancer risk. 6) Recent studies demonstrate that at levels below 250 ppm or higher, arsenic in soil does not appreciably affect urinary arsenic levels in residents compared to levels attributable to natural sources of arsenic such as diet and drinking water. This includes data collected by ATSDR at Everett indicating that urinary arsenic levels among children exposed to existing levels are not elevated above normal. Urinary arsenic is recognized as a valid biomarker of arsenic exposure, and Ecology has never demonstrated excessive exposure to arsenic is occurring at Everett based on such data. 7) Ecology's soil ingestion rate is inapplicable both in terms of quantity of soil ingested, and in the assumption that such ingestion occurs daily for six years. Moreover, Ecology initially assumed that 40% of the arsenic in soil was bioavailable and then, in the draft CAP, changed the assumption to 100% bioavailability. Neither figure has any adequate scientific basis and Ecology provides none in the draft CAP or in its Review of "New Science." Recent studies indicate that a better estimate of the bioavailability of arsenic in soil is approximately 20%. 8) Lifetime exposures to arsenic from soil at levels documented in the peripheral area at Everett are trivial compared to the "background" exposure to arsenic in diet and drinking water, both of which contain levels of naturally occurring arsenic that are much more bioavailable than arsenic in soil. 9) Arsenic is a late stage carcinogen, and not a cancer initiator. The assumption built into the Method B formula that a six year exposure in childhood creates a proportional lifetime risk of cancer is false as applied to arsenic. Since children have been exposed to fewer carcinogens, they have fewer genetically damaged cells on which arsenic, or any other late stage carcinogen could act. More generally, it is inappropriate to use a single formula to calculate risk from all carcinogens, whether they are initiators, promoters or progressors. 10) A uniform cancer risk level of 1 in 1,000,000 for all carcinogens is inappropriate particularly for chemicals, like arsenic, that are not cancer initiators. The human health risk postulated by Ecology is entirely a function of its assumptions. There is no evidence that low levels of arsenic in soil, or indeed any level of arsenic in soil, can cause cancer. 11) Excavation and transportation of the large volumes of soil that exceed 20 ppm will create a greater real and statistical risk to human health than exposure to arsenic in soil. Remediation to 20 ppm will also cause a substantial and disproportionate increase in cost compared to any theoretical benefit to human health.
These issues were addressed at great length in Asarco's July 1998 submission to Ecology on the new science. That submission included declarations from six toxicologists, copies of 119 peer-reviewed scientific articles, and technical information from several EPA sites in which much higher soil cleanup levels for arsenic have been approved as protective of human health. A copy of this submission is attached (see Attachment H-5) and incorporated by reference in these comments.

GQ	Comment ID	Last Name
4.1	449	Aldrich

Comment

Ecology's own regulations require Ecology to "consider new scientific information when establishing cleanup levels for individual sites", and provide that "[i]n making a determination how to use this information" Ecology should, as appropriate, consult with EPA, its Scientific Advisory Board, and the Department of Health. WAC 173-340-702(6). The regulation clearly contemplates that the new information should not be rejected out of hand, but rather should be considered on its merits and incorporated into the decision regarding cleanup levels, if that is appropriate based on those merits. Any other interpretation would violate the requirement that Ecology "ensure that cleanup standards under this chapter are established and implemented in a scientifically and technically sound manner." WAC 173-340-702(1). The regulation, consistent with MTCA itself, encourages Ecology to get "peer review" of the new scientific materials by disinterested bodies with technical expertise--by consulting with EPA, the Scientific Advisory Board (SAB), and the Department of Health. Ecology has failed to fulfill these responsibilities.

GQ	Comment ID	Last Name
4.1	450	Aldrich

Comment

First, a number of key scientific developments are simply ignored in their entirety. For example, two of the most important developments since Ecology adopted its arsenic cleanup standard in 1991 are: (1) publication by Dr. Ken Brown, an author of the 1988 EPA arsenic risk assessment, of the disclosure that EPA used incorrect dose and response information in calculating the cancer slope factor that Ecology still uses in its Method B formula; and (2) evidence, published by Dr. Menzel, Dr. Beck, and many others, of a consensus that there is no plausible biological mechanism by which arsenic could have a linear, no-threshold impact on cancer incidence since arsenic clearly does not cause direct inheritable DNA damage in animals or on living human cells. This contradicts the central assumption upon which the cleanup level is premised. These matters must be addressed, not swept under the rug.

GQ	Comment ID	Last Name
4.1	451	Aldrich

Comment

Second, other key points are dismissed out of hand, without regard to their merits, based on the assertion that Ecology has made a "policy choice" to "err on the side of protectiveness." Review at 3. It simply is not defensible "policy," either as a legal matter or as a legitimate matter of governance, to use bad science. For example, Ecology claims that choice of the extrapolation model is a "policy" decision not subject to scientific review. Review at 11. That is false. The model is used to predict risk at low dose, and if it is demonstrated that the model uses faulty assumptions, the resulting prediction of risk will likewise be faulty. This is but a variation of the familiar modeling maxim that "garbage in" is "garbage out." While use of plausible but conservative assumptions is sometimes justified, the use of assumptions that contradict the weight of evidence is not. Use of assumptions that contradict reality ensure that the resulting risk prediction upon which selection of a cleanup level is premised will have no rational relationship to reality. That clearly violates legal standards set forth in MTCA and the State Administrative Procedures Act.

GQ	Comment ID	Last Name
4.1	452	Aldrich

Comment

Third, although Ecology consulted with EPA and the SAB regarding the lead cleanup levels, it did not do so with respect to arsenic. It refers cryptically to its consultation with EPA about arsenic risk as "less extensive," and makes no mention of the SAB in connection with arsenic. Review at 3. Thus, even though arsenic is undergoing a comprehensive national re-evaluation by EPA and various scientific boards and individual scientists, Ecology sought no independent or disinterested outside advice. Instead, it did only an internal review by a panel of persons who are all clearly identified with defending Ecology's regulations and existing cleanup standards. Mr. Blum and Dr. McCormack are Ecology employees. Dr. White, from the Department of Health, has been Ecology's technical advisor for this project and an active participant in the mediation on Ecology's behalf. Mr. Glass has been a technical advisor to a citizen's group, has been adverse to Asarco in the mediation, and has been an active advocate for rigid application of Ecology regulatory cleanup levels. Given the new scientific evidence at stake, such partisan review is not appropriate.

GQ	Comment ID	Last Name
4.1	453	Aldrich

Comment

Fourth, Ecology has determined that it should not change its cleanup levels based on new science unless it is presented with "clear and convincing" evidence that its own 1991 standards are wrong. Review at 4. Based on its Review, it is clear that Ecology interprets this to mean that it should ignore new information that is supported by the weight of scientific evidence in favor of its defaults even if the latter have no scientific or evidentiary support. This creates a preference for unscientific decision-making that violates the command of its own regulation to consider and, as appropriate, "use this new information", with the help of EPA and the SAB, in setting cleanup levels. It is also inconsistent with EPA's new proposed Risk Assessment Guidelines which require risk management decisions based on the "weight of the evidence." 61 Fed. Reg. 17961 (1996). At bottom, the "clear and convincing" standard, as interpreted by Ecology, effectively means that Ecology will never change its standard, no matter what the countervailing proof, because the risk it has targeted, any risk to the most susceptible individual in excess of one-in-a-million, is so small (indeed, theoretical) that it cannot be detected statistically in any epidemiological study. New science, and common sense, are dead letters under this approach even though the projected risks are so remote that this cleanup action plan, if implemented, will have no rational relationship to protecting human health. Indeed, as discussed below, Ecology's draft CAP will increase human health risk because of the remediation risks created by excavating, transporting, and replacing vast volumes of soil at the Site with arsenic barely above background levels.

GQ	Comment ID	Last Name
4.1	454	Aldrich

Comment

Included with these comments are statements from Drs. Beck, Rodricks, Shoof and Tsuji responding to various errors and oversights in Ecology's Review. Ecology failed to respond to the Declaration of Dr. Menzel, which demonstrated that the identified biological mechanisms of arsenic behavior at the cellular level are inconsistent with Ecology's assumptions, or to the Declaration of Dr. Brown, which demonstrated the mathematical and conceptual errors committed by EPA in calculating the cancer slope factor. Consequently, further statements from them are not included here, but their original declarations and attached materials are incorporated by reference. Also attached to the statement of Dr. Schoof is a bibliography of additional key scientific articles that have been published since the July 1998 submission. Ecology does not identify or comment on any of them, even though the articles reflect some of the most current scientific thinking on the subjects at issue. Asarco will be happy to supply a copy of any article Ecology wishes to examine.

GQ	Comment ID	Last Name
4.1	455	Aldrich

Comment

1) Use of the linear no-threshold model for arsenic is inappropriate.
a. While there is clear evidence that arsenic causes skin cancer at high doses, there is no evidence that arsenic, particularly arsenic in soil, causes cancer at low doses. Rather, in its 1988 arsenic risk assessment, EPA assumed that arsenic might cause cancer at low doses based on the hypothesis that arsenic, like some other carcinogens, might cause inheritable DNA damage and thereby trigger the onset of cancer. Brown Dec. 14; 1988 EPA Risk Assessment at 7. This hypothesis was used as a default assumption for all carcinogens based on EPA's 1986 Cancer Risk Guidelines and based on the state of the science at the time. However, in 1988 EPA, in its arsenic risk assessment attached to Dr. Brown's declaration, disclosed that there was no evidence that that was true for arsenic, Risk Assessment at 7, 22, and that remains true today. Menzel Dec. 8. Standard tests show no gene mutations from arsenic. Moreover, arsenic by itself is generally not an animal carcinogen, whereas cancer initiators that cause inheritable DNA damage almost invariably are. Thus, there is no plausible biological evidence for arsenic to behave as the linear, no-threshold model assumes.

GQ	Comment ID	Last Name
4.1	456	Aldrich

Comment

b. On the other hand, there are biological mechanisms that explain how arsenic can cause cancer at higher doses. While it is not yet clear which one or more of these mechanisms are effective, all of them operate through biological pathways that are inherently non-linear or exhibit a threshold. Menzel Dec. 8; Rodricks Dec. 21-34. Thus, each of these mechanisms contradict the assumption of linearity at low dose.

GQ	Comment ID	Last Name
4.1	457	Aldrich

Comment

c. In 1996, EPA published new Risk Assessment Guidelines that rejected automatic use of the default assumption of linearity for all carcinogens and other aspects of its then 10-year old cancer guidelines as inconsistent with current science. Its preferred method now is to examine evidence of biological mechanisms for a more realistic risk assessment and, for chemicals like arsenic that are not expected to operate in a linear, no-threshold fashion, to utilize a "margin of exposure" approach rather than hypothesizing a theoretical unacceptable risk that is not consistent with the biological evidence. EPA is now in the process of re-evaluating arsenic carcinogenicity and has postponed determination of new water quality standards until that is complete.
Ecology does not discuss this new approach, except to say that EPA provides little specific guidance on how to use the margin of exposure analysis, and that its guidelines are still in draft form. This ignores the more important point that EPA has specifically rejected the old risk assessment methods as an appropriate default for all carcinogens because it is inconsistent with current science. Ecology still uncritically applies the old guidelines. As the newest edition of Casarett and Doull's Toxicology, the standard teaching text, concludes: The linear multistage model is not appropriate for estimating low-dose carcinogenic potency for many chemicals. In most cases, the dose response at high doses of testing differs substantially from the considerably lower doses for exposure.
Casarett and Doull's Toxicology at 255 (Fifth ed. 1996). The linear multistage model is one of several models that use an assumption that there is no threshold below which the chemical is inactive, i.e., no threshold, and that the dose/response relationship is linear at low dose, i.e., that any dose above zero causes a proportional number of cancers which can be directly and proportionately extrapolated using observed cancer incidences at the high-dose level. (As described below, there is no evidence that that assumption is appropriate for arsenic.)

GQ	Comment ID	Last Name
4.1	458	Aldrich

Comment

d. Ecology uncritically uses the EPA 1988 cancer slope factor as a literal measure of human health risk despite the fact that EPA cautioned against use of it without regard to the uncertainties. In the arsenic cancer risk assessment itself, EPA warned that the risk at low dose may be much lower than the cancer slope factor suggests, and may be as low as zero. Brown Dec. 15-16. The IRIS database contains the same cautions, all of which Ecology has ignored.

GQ	Comment ID	Last Name
4.1	459	Aldrich

Comment

e. Ecology claims that the cancer slope factor has been corroborated by epidemiological studies. That is untrue. Some studies have provided corroboration of arsenic risk at high dose, although not at the levels assumed by EPA, but none provide corroboration at low dose. Moreover, Valberg et al in 1998 compared cancer rates among U.S. populations with relatively high arsenic levels in their drinking water to the predicted cancer rates using the cancer slope factor. They demonstrated that it is statistically twice as likely that arsenic does not cause cancer at these levels, which are much higher than Ecology has identified as harmful, as that it causes cancer at the rates projected by the 1988 EPA cancer slope factor. Beck Dec. 22; Valberg et al, Likelihood ratio analysis of skin cancer prevalence associated with arsenic in drinking water in the U.S., Environmental Geochemistry and Health (1998).

GQ	Comment ID	Last Name
4.1	460	Aldrich

Comment

f. Ecology's analysis results in the conclusion that background levels of arsenic in soil raise a human health risk that is 30 times higher than what is acceptable under the MTCA Method B risk formula. Review at 14. This defies common sense. Given that humans have been exposed to such levels in the natural environment for millions of years, how can they now be regarded as unreasonably dangerous based on a formula that does not fit the known behavior of the substance at issue?

GQ	Comment ID	Last Name
4.1	461	Aldrich

Comment

g. Studies also show that nutritionally-deprived populations are more susceptible to the carcinogenic effects of high doses of arsenic than are healthier populations, like the U.S. population. This may be due to a reduced ability in deprived populations to de-toxify and excrete arsenic. This provides further evidence that the Taiwan data cannot be extrapolated to the U.S. population.

GQ	Comment ID	Last Name
4.1	462	Aldrich

Comment

2. The EPA arsenic cancer slope factor cannot be used for quantitative risk assessment.
a. Ecology's Review ignores Dr. Brown's declaration and published article concerning errors in EPA's calculation of the cancer slope factor for arsenic. It responds only obliquely by saying there is always "some degree of uncertainty" in epidemiological studies. This response is patently insufficient for all of the following reasons: (1) The Taiwan study was an "ecological study," meaning that it was designed only to identify whether there was an elevated cancer rate in the population, and was not designed to detect specific dose/response relationships at given levels of exposure. (2) As Dr. Brown explains, EPA had to estimate both dose and response levels to calculate a relationship. Both values came from EPA assumptions, not actual data. (3) The assumptions used have now been shown to be totally implausible. For the low dose group, EPA assumed a uniform dose of 170 ug/L among all of the Taiwanese exposed to drinking water arsenic. In fact, based on later re-examination of the actual well data, one village in the "low dose" exposure group has arsenic levels of 770 ug/L and four had levels above 450 ug/L. By assuming that those persons who contracted cancer were exposed at 170 ug/L when they were in fact exposed at much higher levels, EPA substantially overestimated risk at low dose. It is entirely consistent with the data that those who developed cancer were actually exposed at 300 ug/L or even higher, yet EPA assumed that all of the reported cancers occurred at the 170 ug/L exposure level. Ecology incorporated the same false assumptions into its formula by its uncritical adoption into the formula of the 1988 cancer slope factor. (4) EPA also had no data to tie cancer cases to exposure levels because cancer incidence was reported only by age group, not by location. (5) Ecology thus uses the cancer slope factor to calculate an assumed dose/response relationship at low dose, when the fact is that neither dose nor response are known among the Taiwanese villagers.

GQ	Comment ID	Last Name
4.1	463	Aldrich

Comment

b. Ecology concedes that "there is no way to know today whether the classifications [used by EPA] were correct or incorrect, and what effect any possible misclassification actually had on the results." Review at 16. This concession undermines the validity of its entire draft CAP. How then can Ecology's formula be used to calculate cleanup levels? This is nothing less than a tacit acknowledgment of Dr. Brown's conclusion: "These data are not suitable for quantifying the dose/response relationship in the U.S. population."

GQ	Comment ID	Last Name
4.1	464	Aldrich

Comment

c. It is also untrue that "the uncertainties [in the Taiwan data] may result in underestimation of risk." Review at 17. The only way that could be true is if there is a higher risk of cancer from arsenic at low dose than at high dose, an absurd hypothesis that contradicts the most fundamental rule of toxicology--response increases rather than diminishes with higher dose.

GQ	Comment ID	Last Name
4.1	465	Aldrich

Comment

3. Ecology's assumption of daily soil ingestion of 200 mg is not realistic.
a. The data that Ecology cites in favor of its soil ingestion assumption was gathered by Calabrese and Stanek at a day care center during the summer months. It is illogical, and defies common sense, to assume that children consume soil at Everett at the same rate 365 days a year. No data supports that assumption, and the Western Washington climate does not permit that inference.

GQ	Comment ID	Last Name
4.1	466	Aldrich

Comment

b. Ecology also ignores Dr. Beck's demonstration that household dust comes from sources in addition to outside soil and the concentrations will be diluted. Ecology simply assumes, without support, that all ingested dust will have the same concentration as the average outdoor soil level.

GQ	Comment ID	Last Name
4.1	467	Aldrich

Comment

4. There is no scientific basis for a soil bioavailability factor of 100%.
a. In its Anaconda ROD, based on extensive studies, EPA calculated that the bioavailability of arsenic in soil to humans was 18.3%. ROD at DS-22, Volume 8, Tab E of New Science. Based on this, and other data, Asarco argued that the 40% used by Ecology was too high. Ecology now announces that it will use 100% as the assumed bioavailability of arsenic in soil. It does so even though it suggests elsewhere in its Review that even arsenic in food has a lower bioavailability value, Review at 28, and that dissolved arsenic in water has a bioavailability of only 90%. Review at 29. How can arsenic in soil have a bioavailability higher than dissolved arsenic in water or higher than occurs with ingestion of pure arsenic compounds?

GQ	Comment ID	Last Name
4.1	468	Aldrich

Comment

b. No data supports this value, and it is well known that arsenic binds to soils, making the value totally implausible. Ingestion of "purified arsenic compounds", (which Ecology admits themselves have a lower bioavailability than 100%), Review at 21, offers no support whatever for Ecology's assumption with respect to soil-bound arsenic. Particularly in light of the 18% value used by EPA at Anaconda, Asarco can only conclude that Ecology's selection of 100% is not based on science, but rather is either retaliatory or simply an attempt to "stack the deck" in favor of its cleanup level. Certainly, it could not survive peer review by EPA, its own SAB, or any neutral panel of scientists.

GQ	Comment ID	Last Name
4.1	469	Aldrich

Comment

5. Arsenic is likely an essential nutrient in humans at levels above the arsenic ingestion rate postulated by Ecology as harmful.
a. Ecology attempts to rebut the materials Asarco presented on arsenic essentiality by pointing out that in 1988 EPA reported that arsenic essentiality was plausible, but not proven. EPA made that statement 10 years ago, and the evidence and scientific consensus has changed since. As noted in Asarco's comments on the draft CAP, in 1998 it has been reported in the literature not only that there is strong evidence of arsenic essentiality based on human data gathered from dialysis patients who have abnormally low blood arsenic levels, but also that arsenic has anti-carcinogenic properties. This suggests that while arsenic at high dose is associated with cancer, inadequate amounts of arsenic also increases cancer risk.

GQ	Comment ID	Last Name
4.1	470	Aldrich

Comment

b. Ecology concludes that "[e]ven if it were proven that arsenic is required for good health in humans, that finding wouldn't preclude it from having toxic actions at essential doses or just above such doses." Review at 38. This statement contradicts common sense. If arsenic is indeed essential, and arsenic deprivation causes immediate adverse health effects, it makes little sense as a regulatory policy to reduce arsenic to the lowest possible level in order to avoid extraordinarily low risks of cancer, i.e., theoretical one-in-a-million risks, when the result may be to increase the immediate risks from arsenic deficiency. Dr. Nielsen, a scientist with the U.S. Department of Agriculture, recently expressed concern, that based on extrapolation from animal studies, "some individuals may be consuming inadequate amounts of arsenic" in their diet. Nielsen, Ultratrace Elements in Nutrition, J. Trace Elem. Exp. Med. 11:254 (1998). As Dr. Nielson concluded, "[b]ecause arsenic most likely is an essential nutrient, the belief that any form or amount of arsenic is unnecessary, toxic, or carcinogenic is unrealistic, if not potentially harmful" (emphasis added).

GQ	Comment ID	Last Name
4.1	471	Aldrich

Comment

c. Ecology also fails to comment on the recent publication in the New England Journal of Medicine and other journals of peer-reviewed studies showing that arsenic is an effective treatment for certain kinds of leukemia at doses that produce only mild side-effects. No objective evaluation of this chemical can ignore, as Ecology does, this striking new development.

GQ	Comment ID	Last Name
4.1	472	Aldrich

Comment

6. Scientific studies using urinary arsenic levels demonstrate that exposure to arsenic in soils at levels substantially higher than 20 ppm do not result in elevated urinary arsenic levels, a recognized measure of arsenic exposure.
a. Ecology essentially rejects out of hand the demonstration that children exposed to elevated levels of arsenic in soil, many times higher than Ecology's soil cleanup level, do not show urinary arsenic levels that are higher than normal. Urinary arsenic is regarded as an accurate biomarker to exposure to arsenic. Ecology's response is first to complain that Asarco has not submitted Everett-specific urinary arsenic data. It uses this to reject consideration of the evidence developed at other sites on the very limited effect of arsenic in soil on urinary arsenic levels in exposed children. Next Ecology warns that its statement about Everett-specific data "should not be misinterpreted as Ecology approval for this approach to deriving soil cleanup standards," i.e., using urinary arsenic levels to determine the extent that soil cleanup is necessary, in the event Asarco did submit such data. Review at 35. Finally, Ecology states that it believes that if such data were submitted that it could "back-calculate" so as to corroborate its 20 ppm soil cleanup level, thus effectively pre-judging the issue. It does so notwithstanding that EPA at Anaconda concluded that such data corroborated that a 250 ppm soil level was protective of human health. This is clearly a partisan rather than objective review of the data.

GQ	Comment ID	Last Name
4.1	473	Aldrich

Comment

b. In its draft CAP, on the other hand, Ecology proposes post-remediation arsenic testing to demonstrate that its cleanup has been effective. Draft CAP at 99. That is ironic because, of course, we already know that no elevated urinary arsenic will be detected because it is not found even at sites with much higher levels. The real question is how can it be that such data can be used to measure arsenic exposure after a cleanup, but that it is not useful when used to determine what level of exposure causes a problem before the cleanup is conducted? Indeed, urinary arsenic data has been collected from persons exposed to Everett soils in a urinary arsenic testing program being conducted by the Department of Health. Urinary arsenic levels in Everett children have been collected by ATSDR. As Ecology is, or should be aware, those tests do not show no elevated urinary arsenic levels even before remediation. See Dr. Tsuji Statement. This data, coupled with data from other sites, show that the default assumptions incorporated into Ecology's formula are not valid.

GQ	Comment ID	Last Name
4.1	474	Aldrich

Comment

7.The calculated exposure to arsenic in soil, which Ecology considers unacceptable for human health, is dwarfed by normal intake of arsenic, at background levels from diet and drink.

a. Arsenic is a ubiquitous, naturally-occurring substance, found not only in soil but also food and water. Dr. Rodricks, in his Declaration, made a compelling demonstration that arsenic in soil, even at levels 5 times higher than Ecology's cleanup level, was a very small increment of the total lifetime arsenic intake from normal levels of arsenic in food and water, and that the difference between the two exposures had no material effect on arsenic exposure because it was dwarfed by the dietary and drinking water intake. Ecology tries to quibble with these facts, primarily by arguing that although it is not included in their Method B formula, one should also assume that adults living in Everett will also ingest large amounts of contaminated soil every day, at a rate of 100 mg a day for decades, either 30 years or 70 years, which add up over a lifetime. This, of course, assumes the validity of the underlying premise regarding extended daily exposure.

GQ	Comment ID	Last Name
4.1	475	Aldrich

Comment

b. More importantly, this does not obscure the point that the amount of arsenic coming from soil, compared to normal intake of arsenic from diet and drinking water is very small. Ecology postulates that any arsenic intake from soil over 4 micrograms causes unreasonable health risk (200 mg at the 20 ppm arsenic soil level with 100% bioavailability). However, the mean arsenic value in drinking water in the United States is 2.4 ug/L leading to an assumed daily ingestion of 4.8 micrograms (also assuming 100% bioavailability). Average daily dietary intake estimates vary, but 11 to 18 ug/day is a good estimate. Beck Dec. at (Paragraph) 26. Added to drinking water ingestion, the daily intake would be in the 15 to 22 ug/day range. Given these levels of normal intake, how can any level above 4 ug/day be regarded as unreasonably dangerous? Using realistic bioavailability numbers from Anaconda, the difference is even greater because the assumed absorbed fraction of arsenic from soil would be only .8 ug/day.

GQ	Comment ID	Last Name
4.1	477	Aldrich

Comment

Ecology admits only part of this risk, a projected 6.5 truck accidents. Draft EIS at A-4-49. The question of how many of these accidents will be fatalities is not addressed. Moreover, the actual risk is substantially underestimated because, as demonstrated in the comments on the draft CAP, Ecology's estimates of the volumes of soil that will be remediated under its draft CAP are much higher than it estimated. Regardless of actual volume, Ecology does not compare the remediation and transportation risks to the purported reduction in cancer risk achieved by the cleanup. That risk is minuscule because there are clearly very few, if any, children who consume 200 mg of soil every day from a contaminated source in Everett.

To illustrate the point, assume that there are 10 children in Everett who consume that much soil 365 days/year for six years. Assume that arsenic in soil is 100% bioavailable, that Ecology's risk calculation is correct, and that soils are remediated so as to leave an average of 67 ppm in the soils, rather than 20 ppm. Since Ecology's 10-6 cleanup level is 0.67 ppm, each child would face a theoretical 10-4 risk over their lifetimes, or one-in-ten thousand and the entire population would face a risk of 1 in 1000. This exposed group of children would have to turn over and be replaced with new children 1000 times in succession before one would expect a single case of skin cancer in any of their lifetimes. Reduction of the cleanup level to 20 ppm would reduce the risk to slightly less than one in every 3000 generations of exposure. In contrast, at the 20 ppm cleanup level, Ecology projects 6.5 accidents involving trucks in three years. (And, of course, the actual cancer risk among this population is most likely zero for all the reasons discussed above.)

GQ	Comment ID	Last Name
4.1	481	Aldrich

Comment

Ecology's analysis is fundamentally flawed and inconsistent with contemporary scientific information for all of the following reasons: 1. Scenarios 1 and 3 are based on avoiding transient health effects that include such symptoms as nausea and diarrhea, but which do not result in permanent injury or harm to human health. These toxicological endpoints are too insignificant and the likelihood of their occurrence too small to justify the costs of achieving these levels of protection. Moreover, the soil ingestions assumed are so high it is likely that the same symptoms would occur from soil ingestion alone wholly apart from any arsenic content.

GQ	Comment ID	Last Name
4.1	482	Aldrich

Comment

2. There is no justification for imposing a 10 fold safety factor to protect against such transient effects, particularly given the extraordinarily conservative assumptions used for soil ingestion and bioavailability. These factors, in effect, already have a safety factor built in, and Ecology's selected cleanup levels have redundant layers of protection built in to avoid insignificant and temporary effects.

GQ	Comment ID	Last Name
4.1	483	Aldrich

Comment

3. Both Scenarios 1 and 3 are supposedly based on relatively common exposures. This characterization is inconsistent with the draft CAP's requirement of a geotextile or defined gravel layer at the bottom of the 0 to 12 inch horizon. That, coupled with institutional controls and a twelve inch layer of clean soils, means that the exposures will necessarily be "atypical" rather than "common."

GQ	Comment ID	Last Name
4.1	484	Aldrich

Comment

4. Scenarios 1 and 3 assume a soil bioavailability of arsenic in soil of 100%. As explained in Asarco's comments on Ecology's Review of New Science, there is no scientific basis for that assumption, and it contradicts credible evidence of much lower bioavailability values published in the peer-reviewed literature. Further, there is no rational basis for using a different bioavailability factor for Scenarios 1 and 3 than for Scenario 2.

GQ	Comment ID	Last Name
4.1	485	Aldrich

Comment

5. The soil ingestion rates are not realistic. The Scenario 3 ingestion value of 2000 mg/day for an adult is by no means "common." This exceeds by 10 times the 95 % UCL value used by Ecology for children, who clearly are more prone to soil ingestion than adults. It is unrealistic to assume that any adult would deliberately eat that much soil, unless the person was deranged, and it is silly to suggest that this consumption could occur on a "relatively common" basis from soils lying below 2 feet down to 15 feet.

GQ	Comment ID	Last Name
4.1	486	Aldrich

Comment

6.Ecology's assumptions of a soil ingestion by a child of 20,000 mg/day in Scenario 2, resulting in lethality, is extraordinary. It is based on one reported incident of one child's behavior. The soil ingestion is so high, and the soil at issue is so inaccessible (more than 2 feet deep, covered with 12 inches of "clean soil" and under a geotextile or gravel layer) that the assumptions are without relation to reality. They should not be further exaggerated by using a 10-fold safety factor. In other words, under Ecology's own extraordinary assumptions, if a child did consume that much soil, lethality would not occur unless the soil had a concentration of 1625 ppm arsenic, not 162.5 ppm.

GQ	Comment ID	Last Name
4.1	487	Aldrich

Comment

7. Ecology's Scenario 2 analysis for "lethality" results in calculation of an acceptable soil level of 162.5 ppm. In effect, this results in the unwarranted implication that soils left in place at the surface at Ruston below 230 ppm, and at Anaconda below 250 ppm, present an unreasonable risk of lethality. Yet Ecology advised EPA that it agreed that the Ruston cleanup level was adequate to protect human health. As noted in Asarco's Comments on Ecology's Review of New Science, a number of studies reveal that arsenic in soil at this level has no effect at all on urinary arsenic levels. To suggest that this concentration in soil presents an unreasonable risk of lethality is an absurd and unsubstantiated conclusion.

GQ	Comment ID	Last Name
4.1	488	Aldrich

Comment

8. Ecology has misinterpreted and misused the underlying studies on which its toxic effects conclusions were calculated. It had to assume body weights, with no supporting data, for example to calculate the concentration per kilogram of body weight at which toxic effects supposedly occurred; it had to assume that exposure levels were accurately measured, even though some of the data dates back more than 70 years; and it took examples of continuing exposures to arsenic over multiple days and assumed that the same toxic effects would occur from a single incident of exposure. Much of the data relied upon can only be described as anecdotal. Moreover, as explained in Dr. Schoof's Statement, it ignored more reliable modern data that contradicts its conclusions.

GQ	Comment ID	Last Name
4.2.1	130	Aldrich

Comment

Section 3.1 MTCA Requirements p. 31-34; The discussion of MTCA regulatory requirements is both inaccurate and incomplete. Significant omissions include: failure to note that Ecology must consider new scientific information when setting cleanup levels, WAC 173-340-703(6) and should consult with EPA and SAB when appropriate; failure to note that Ecology should use Method C when human health impacts from using Method A or B cleanup levels will result in significantly greater threats to human health; failure to note that Ecology is in breach of the statutory and regulatory command to update its cleanup standards no less frequently than every five years; and failure to note that Ecology should not approve cleanups where the cost is substantial and disproportionate to the incremental degree of protection achieved. WAC 173-340-360(d)(vi).

GQ	Comment ID	Last Name
4.2.1	149	Aldrich

Comment

Section 5.3.1. Alternatives Evaluated. pages 58-59 The discussion in the draft CAP about alternatives fails to address critical issues regarding the relative impact of the alternatives and how adverse consequence could be avoided by alternate decisions. First, it assumes adverse impacts on public health from leaving soil at any level above 20 ppm, but does not identify these effects or discuss them. For example, the draft CAP fails to identify how many children live in the Former Arsenic Trioxide Processing Area and in the Peripheral Area. Of these, how many fall within the group of highly exposed and sensitive children that the cleanup is designed to protect? In other words, the soil ingestion assumptions are addressed to the 95 % UCL child who is assumed to ingest 200 mg of soil/day. Even under Ecology's assumptions, only approximately 5% of the total population of children in the area could fall in this category. Only these children are even theoretically at risk. Ecology has not identified or even estimated the number of such children. Without performing this analysis, Ecology is unable to weigh the purported benefit of cleanups at different levels to the remediation and transportation risks that have been documented, and which increase proportionately relative to the volume of soil excavated and removed to alternate locations. As Asarco has already demonstrated, the remediation risk factor alone requires use of Method C, rather than Method B under Ecology's regulations. See Section E. Because cleanup to 20 ppm will generate such a high volume of soil to be excavated and transported, the actual human health impacts from implementation of the remedy in terms of projected accidents will likely far exceed the theoretical risk from arsenic exposure. See Dr. Beck Statement in Section E. Second, as noted, the draft CAP does not identify the cost of the proposed remedy compared to alternatives. This is a critical omission which makes it impossible for Ecology to perform the "substantial and disproportionate" analysis required by WAC 1 73-340-360(5)(d)(vi).

GQ	Comment ID	Last Name
4.2.1	172	Aldrich

Comment

Justification for Selection of Cleanup Action. Ecology's ultimate rationale for its Draft Cleanup Action Plan is institutional rather than health-based. Its key decision is that attainment of the cleanup level of 20 ppm is a "threshold" requirement that must be met regardless of lack of scientific merit and despite substantial and disproportionate cost compared to less expensive remedies that would fully protect human health. Remarkably, Ecology concludes that even the fact that implementation of its chosen remedy will result in a net increase in total human health risk is irrelevant.

GQ	Comment ID	Last Name
4.2.1	243	Aldrich

Comment

EIS; The combined results of these misrepresentations is that the cost and day-to-day impacts for implementation of the draft CAP will be at least 1.5 to 2 times greater than presented in the draft CAP. This outcome is directly attributable to the provisions of the draft CAP and is based on Asarco's experience and information that has been available to Ecology for some time. The draft EIS is fundamentally deficient by not reflecting these foreseeable, probable consequences of the draft CAP. In particular, the document makes no quantitative or qualitative assessment of the risk of adverse public health impacts from the remediation itself, compared to health effects avoided from exposure to arsenic and lead in the concentrations and locations found.

GQ	Comment ID	Last Name
4.2.1	248	Aldrich

Comment

Remediation Risk; The draft CAP fails to identify or evaluate remediation risk even though materials were supplied by Asarco on that subject in its July 1998 submission. Ecology was also warned by the Science Advisory Board when Ecology promulgated its regulations in 1990 that use of overly strict cleanup levels could lead to remediation risks that exceed the postulated risk of harm from exposure to the chemicals in soil the cleanup is designed to avoid.

GQ	Comment ID	Last Name
4.2.1	249	Aldrich

Comment

Ecology's draft EIS does quantify transportation risk and concludes that 6.5 truck accidents are statistically expected from transporting estimated volumes of "contaminated" soil and replacing them with "clean" soils. However, Ecology's estimate is not accurate because use of its cleanup levels and compliance protocol will likely result in a substantially larger volume of soil being remediated. See Sections A and B. The draft EIS also fails to identify which of the expected accidents will likely result in fatalities, or serious injury, an expected potential consequence with large numbers of oversized trucks traveling long distances at highway speeds. As explained in Attachment H-3, Asarco, using Ecology's cleanup level, calculates that there is approximately a 1.2 x 10-1 risk, i.e., one in twelve, that transportation of the excavated and replacement soils will cause a fatal accident.

GQ	Comment ID	Last Name
4.2.1	250	Aldrich

Comment

Most critically, the draft CAP and draft EIS fail to compare these risks to any quantified cancer risk from exposure to contaminated soils. When that comparison is performed, it reveals that this draft CAP, if implemented, will have a strongly negative net impact on human health. See Dr. Beck Statement in Section E. Only a very few children could possibly be at risk even using Ecology's assumptions, and the postulated risk is purely theoretical. In contrast, traffic accidents are predicted with considerable statistical reliability because of data collected by government agencies monitoring traffic safety. The risk of a truck-related fatality is many orders of magnitude greater than the risk of a single case of skin cancer.

GQ	Comment ID	Last Name
4.2.1	251	Aldrich

Comment

Method C Analysis. The draft CAP fails to evaluate whether using Method C cleanup levels would reduce the net negative impact on human health, and whether other alternate cleanup levels could further reduce the net adverse impact on human health of this cleanup. See Attachment H-3.

GQ	Comment ID	Last Name
4.2.1	327	Aldrich

Comment

None of these consequences are necessary. Under its regulations, Ecology can consider disproportionate cost, can avoid negative impacts on human health, and could utilize new scientific information about arsenic to avoid these unfortunate effects. Asarco urges it to do so.

GQ	Comment ID	Last Name
4.2.1	407	Aldrich

Comment

Consistent with its own regulations, it must also evaluate the cost of this cleanup relative to the marginal reduction in health risk, and consider the adverse effects of this extraordinary remediation itself on public health.

GQ	Comment ID	Last Name
4.2.1	440	Aldrich

Comment

Ecology did not follow its owns regulations and guidance in developing the Cleanup Action Plan. The MTCA regulation, and guidance documents prepared by Ecology interpreting it, establish a process for investigating a site and selecting a remedy if it is determined that there is a threat to human health or the environment from the presence of a hazardous substance at the site. In selecting a remedy, there are several factors that Ecology is directed to consider. In preparing the draft CAP containing the proposed remedy for Everett, Ecology has ignored these factors in direct contravention of its own regulation. Its entire analysis is premised on an assumption that 20 ppm as a cleanup and removal level is a "threshold" requirement that must be met regardless of cost, scientific validity, and whether or not it results in a net benefit to protecting human health. In fact, the threshold requirement of protecting human health and the environment can be met at a remediation and removal level well above 20 ppm arsenic.

GQ	Comment ID	Last Name
4.2.1	441	Aldrich

Comment

Once a potential "site" is discovered, a remedial investigation/feasibility study (RI/FS) is performed, Ecology evaluates the RI/FS, establishes cleanup levels, or remediation levels where appropriate, selects cleanup standards in accordance with the procedures in WAC 173-340-700 through -760, and selects a cleanup action or remedy that protects human health and the environment and that will meet the other requirements of WAC 173-340-360. WAC 173-340-120(4)(b). The regulation provides flexibility as well as opportunities, and in some cases requirements, to consider site-specific information. The final cleanup action that is selected may consist of several cleanup technologies, including, for example, on-site containment, soil removal, and institutional controls, that are triggered by the cleanup levels and remediation levels. WAC 173-340-700(2) - (4).

Once a cleanup level is selected (20 ppm arsenic in the draft CAP), the next step is the determination of the cleanup standard. Establishing cleanup standards for a site requires selection of the cleanup level ("hazardous substance concentrations that protect human health and the environment"), or remediation levels, points of compliance ("locations on the site where those cleanup levels must be met"), and any additional regulatory requirements that may apply at the site because of the type of action to be taken and/or the location of the site ("ARARs"). WAC 173-340-700(2)(a). One of these additional regulatory requirements is found in the soil cleanup standards section, WAC 173-340-740(1)(a): "In the event of a release of a hazardous substance, treatment, removal, and/or containment measures shall be implemented for those soils with hazardous substance concentrations which exceed soil cleanup levels based on this [residential] use... ." Ecology, however, has ignored that other provisions of MTCA, Part VII - Cleanup Standards not only qualify this sentence but establish equally applicable requirements that must be followed in setting the cleanup standard and selecting the appropriate cleanup action. WAC 173-340-700(2)(a) sets the stage for determining how, for example, the soil cleanup standards section, WAC 173-340-740(1)(a), should be used.

This part provides uniform methods state-wide for identifying cleanup standards and requires that all cleanups under the Act meet these standards. The actual degree of cleanup may vary from site to site and will be determined by the cleanup action alternative selected under WAC 173-340-360. (Emphasis added.)

Thus, although the cleanup standards provisions prescribe rules of general applicability, they are not absolutes. Instead, they are subject to site-specific factors and the cleanup action selection process. Further, WAC 173-340-700(7)(a) states that Part VII "shall be used in combination with" Section 360 - selection of cleanup actions. Although Method A may be used to establish cleanup levels, the regulations state, "Exceedances of the values in these tables do not necessarily trigger requirements for cleanup action under this chapter." WAC 173-340-704(4). Other provisions in Part VII establish "additional regulatory requirements" that go into the setting of the cleanup standard: 1) At most sites, several cleanup technologies or combinations of cleanup technologies may be used to comply with cleanup standards (WAC 173-340-700(2)(b)). It is appropriate to consider a representative range of technologies, as well as different combinations of technologies, "to accomplish the overall site cleanup." (WAC 173-340-700(7)(g)). 2) Other parts of this rule govern the process for planning and deciding on the cleanup action to be taken - requiring the identification of cleanup action alternatives in the FS and that WAC 173-340-360 specifies the criteria for selecting the preferred alternative. (WAC 173-340-700(2)(b)). 3) While cost is not a factor in determining the cleanup level, it may be appropriate for certain determinations related to cleanup standards and shall be considered when selecting an appropriate cleanup action. (WAC 173-340-700(7)(f)). 4) A remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action as long as certain conditions are met (WAC 173-340-700(7)(i)). 5) Institutional controls shall be required whenever a cleanup action results in residual concentrations of hazardous substances which exceed methods A or B cleanup levels. (WAC 173-340-702(4)).

Thus, while WAC 173-340-740(1)(a), regarding cleanup standards for residential areas, is a requirement, it is conditioned by site-specific factors, other portions of Part VII, and WAC 173-340-360, the selection of cleanup actions provision. It is also part of a regulatory process. WAC 173-340-740(1)(a) does not "trump" other provisions of the regulation - particularly WAC 173-340-360. Indeed, the regulations require that Section 700, the remainder of Part VII and WAC 173-340-360 "shall be used in combination." WAC 173-340-700(7)(a).

WAC 173-340-360 sets forth the requirements for selecting cleanup actions. It is a comprehensive section. It specifies the criteria for approving cleanup actions, the order of preference for cleanup technologies, policies for permanent solutions, the application of these criteria to particular situations, and the process for making these decisions. This section is intended to be used in conjunction with the cleanup standards defined in WAC 173-340-700 through 173-340-760 and the administrative principles for the overall cleanup process (WAC 173-340-130). (WAC 173-340-360(1)). (Emphasis added.)

Pursuant to WAC 173-340-360, cleanup actions must: protect human health and the environment; comply with cleanup standards; comply with applicable state and federal laws; provide for compliance monitoring; use permanent solutions to the maximum extent practicable; provide for a reasonable restoration time frame; and, consider public concerns.

WAC 173-340-740(1)(a) is part of the cleanup standard requirement; however, it is subject to modification on a site-specific basis both as a result of the language in Part VII itself (as outlined above) and by WAC 173-340-360. In particular, the use of "permanent solutions" such as treatment and removal, while a preference in this rule, "may not be practicable for all sites" and is limited to "permanent solutions to the maximum extent practicable." Seven criteria are used to determine "permanent to the maximum extent practicable": overall protectiveness; long-term effectiveness; short-term effectiveness; permanent reduction of toxicity, mobility and volume of the hazardous substance; implementability; the degree to which community concerns are addressed; and, cleanup cost. These are not a hierarchy, but merely criteria to be considered in determining whether a remedy is permanent. Specifically, "a cleanup action shall not be considered practicable if the incremental cost of the cleanup action is substantial and disproportionate to the incremental degree of protection it would achieve over a lower preference cleanup action." The requirement in WAC 173-340-740(1)(a) is, therefore, subject to the site-specific criteria established in WAC 173-340-360(5), including the cleanup cost test.

Reading Part VII and Section 360 "in combination" and "in conjunction," it is evident that the regulations allow flexibility on a site-specific

basis for selecting a range of cleanup actions and technologies for varying levels of arsenic concentrations, in this case, above the selected cleanup level. Assuming that all of the criteria in WAC 173-340-360(5) are met, as well as the rest of WAC 173-340-360, the MTCA regulations would allow soil removal to be triggered by a level higher than the cleanup level (i.e., a remediation level), and would allow for the use of other cleanup technologies from WAC 173-340-360(4) for remaining soils above the cleanup level. This conclusion is supported not only by the language of Section 360 but also by the provisions in Part VII referenced above, including those that specify that a combination of technologies may be used and that a remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action.

GQ	Comment ID	Last Name
4.2.1	443	Aldrich

Comment

In preparing the draft CAP, Ecology should have followed the process outlined above. However, Ecology did not utilize its own regulations and guidance available for selecting a remedy at Everett. The draft CAP contains numerous examples of this failure by Ecology, including the following: 1) Ecology defines the policies and principles that Ecology is to utilize "to ensure that cleanup standards...are established and implemented in a scientifically and technically sound manner," at WAC 173-340-702. One of these principles is that Ecology shall consider "new scientific information" when establishing cleanup levels for a site. WAC 173-340-702(6). However, in spite of this directive in its own regulation, Ecology has failed to appropriately consider any new science as the basis for selecting a remediation level for the 0 to 12 inch depth interval at the site. It also ignored the relevant scientific information in setting cleanup levels for soils below 12 inches. See Sections E and F. 2) A remedy may not be practicable if a substantial and disproportionate cost analysis demonstrates that a lower cost alternative is equally protective. However, Ecology selected a remedy without performing a comprehensive substantial and disproportionate analysis of the proposed cleanup action. In fact, there is no substantive discussion of overall cost to be found anywhere in the draft CAP. Ecology has ignored its own regulatory requirement to consider the cost of a remedy. See Section B and Attachments H-1 and H-2.

Ecology concluded that selection of a 20 ppm arsenic cleanup level is a threshold requirement that must be met in the 0 to 12 inch depth interval even if implementation of the remedy of digging and hauling all soils with concentrations of arsenic above 20 ppm would lead to a net increase in human health risk. WAC 173-340-706 allows the use of Method C cleanup levels in lieu of Method A or B when attainment of Method A or B has the potential for creating a significantly greater overall threat to human health than attainment of Method C levels. Ecology's own data demonstrates that attainment of a 20 ppm arsenic cleanup level will cause a net increase in human health risk, yet Ecology has failed to apply the flexibility its own regulation permits. See Attachment H-3.

GQ	Comment ID	Last Name
4.2.1	476	Aldrich

Comment

8. The new human health risks introduced by excavating and moving in excess of 166,000 cubic yards of soil far exceed the theoretical cancer risk from exposure to the Everett soils.

b. As the Science Advisory Board warned Ecology about its regulations in 1990, as cleanup levels drop to extraordinarily low levels, such as to protect against an assumed one-in-a-million excess cancer risk, the volume of soil that must be removed and replaced with "clean" soil to achieve that level of "protection" increases exponentially. This raises not just cost, but also the human health risk from the remediation itself and from the transportation and replacement of the excavated soils.

GQ	Comment ID	Last Name
4.2.1	477	Aldrich

Comment

Ecology admits only part of this risk, a projected 6.5 truck accidents. Draft EIS at A-4-49. The question of how many of these accidents will be fatalities is not addressed. Moreover, the actual risk is substantially underestimated because, as demonstrated in the comments on the draft CAP, Ecology's estimates of the volumes of soil that will be remediated under its draft CAP are much higher than it estimated. Regardless of actual volume, Ecology does not compare the remediation and transportation risks to the purported reduction in cancer risk achieved by the cleanup. That risk is minuscule because there are clearly very few, if any, children who consume 200 mg of soil every day from a contaminated source in Everett.

To illustrate the point, assume that there are 10 children in Everett who consume that much soil 365 days/year for six years. Assume that arsenic in soil is 100% bioavailable, that Ecology's risk calculation is correct, and that soils are remediated so as to leave an average of 67 ppm in the soils, rather than 20 ppm. Since Ecology's 10-6 cleanup level is 0.67 ppm, each child would face a theoretical 10-4 risk over their lifetimes, or one-in-ten thousand and the entire population would face a risk of 1 in 1000. This exposed group of children would have to turn over and be replaced with new children 1000 times in succession before one would expect a single case of skin cancer in any of their lifetimes. Reduction of the cleanup level to 20 ppm would reduce the risk to slightly less than one in every 3000 generations of exposure. In contrast, at the 20 ppm cleanup level, Ecology projects 6.5 accidents involving trucks in three years. (And, of course, the actual cancer risk among this population is most likely zero for all the reasons discussed above.)

GQ	Comment ID	Last Name
4.2.1	478	Aldrich

Comment

Similarly, Ecology ignores the risk of fatal truck accidents. Data published in Ecology's Environmental Impact Statement on its MTCA regulations, when applied to the volumes and distances involved here, will create a risk of a traffic fatality of about 1 x 10-1, many times higher than the cancer risk theoretically avoided. See Dr. Beck Statement.

GQ	Comment ID	Last Name
4.2.1	479	Aldrich

Comment

Moreover, the draft EIS ignores the risk of the on-site remediation itself, excavation and replacement of approximately 180,000 cubic yards of soil in a residential neighborhood where small children live. The risk to remediation workers alone is approximately 1.7 x 10-3, which exceeds the theoretical cancer risk. See Dr. Beck Statement. They are not theoretical or based on a hypothetical computer model. They are based on statistics from actual accidents. There is no existing database to evaluate the remediation risk to children at Everett, but it cannot simply be ignored. There can be no doubt that the net effect of this plan, if implemented, will be to cause more harm than it prevents.

GQ	Comment ID	Last Name
4.2.2	40	White

Comment

Application of the 20 ppm standard to property in residential use is unnecessary; application of the same standard to non-residential uses is unreasonable. There is no basis for applying the 20 ppm standard to commercial, park or institutional uses. The 20 ppm standard is based upon daily exposure by a young child for six years. Surely this is not relevant to land under a commercial parking lot or to the golf course. Yet, the DCAP will require every commercial property on Broadway, for example, to be cleaned up to the 20 ppm standard when the time comes that new construction or remodeling exposes soil. Given the permanent nature of the enforcement action, that time will come; it's just a matter of when.

GQ	Comment ID	Last Name
4.2.2	111	Ryan

Comment

The same cleanup standards and remediation levels seem to apply to the entire peripheral area regardless of current zoning or usage. The sampling design reflects this assumption. I feel that a clearly higher level might be applied to the commercial zone along Broadway with the possible exception of the current trailer court. The golf course could be given some higher remediation level considering its usage by adults on a lower frequency level than residential properties. If the 1 in 400 sq. ft sampling is used for the golf course, it seems it would be unreasonably expensive for sampling costs. Perhaps the size of decision units should be reconsidered here.

GQ	Comment ID	Last Name
4.2.2	141	Aldrich

Comment

The selection of residential remediation levels for commercial areas is unrealistic and fails to consider actual exposure scenarios, and current and future land use as controlled by zoning restrictions. Ecology states that for commercial land uses at the site, specifically the Community Business Zone identified on Figure 2-2, "it is practicable to establish soil cleanup levels in the Community Business Zone in accordance with residential use, as any cleanup actions at these properties would be the same as for residential properties." It is patently absurd to justify the use of residential soil cleanup levels in commercial areas. The potential exposures are totally dissimilar. First, under the Method B formula the soil cleanup level is calculated to protect the hypothetical RME child who consumes 200 mg of soil each day for six years. In order to satisfy minimal requirements of rationality, there must be a basis to conclude the assumed ingestion of 200 mg of soil each day could occur in the locations where Ecology has determined the 20 ppm cleanup levels will be applied. For the current commercial land use, it is unreasonable to assume that children are present and ingesting the amount of soil assumed by the Method B calculation each day for a period of six years. Secondly, institutional controls (which the draft CAP relies on after excavation of soils, but not in evaluating the benefit of performing the excavation of surface soils) are already in place in the business district in the form of zoning restrictions, which prevent residential development. Maintenance of these controls would be a minor component of the overall cleanup action.

GQ	Comment ID	Last Name
4.2.2	142	Aldrich

Comment

Secondly, institutional controls (which the draft CAP relies on after excavation of soils, but not in evaluating the benefit of performing the excavation of surface soils) are already in place in the business district in the form of zoning restrictions, which prevent residential development. Maintenance of these controls would be a minor component of the overall cleanup action. In addition, the draft CAP is internally inconsistent with respect to the role of institutional controls in the overall remedy. Page 75 contains the following statement, "Ecology has no confidence that institutional controls will adequately prevent exposure to elevated concentrations of contaminants." This position is used to support the draft CAP's position that surface soils with arsenic above 20 ppm must be excavated in all areas including commercial and recreational. However, on page 95 the draft CAP states, "Institutional controls are a critical component of the cleanup action plan at the Everett Smelter Site." The reality is that even the cleanup proposed by Ecology has a fundamental reliance on institutional controls to prevent unacceptable exposures. However, the failure to apply this logic "up front" during the development of remedial actions results in an unbalanced remedy, which relies on excessive soil removal actions in residential and non-residential areas. Institutional controls have been used as an effective method of preventing exposure to metals in soils at numerous similar large urban sites throughout the country, the principal control being to maintain or create areas where residential use is prohibited by zoning restrictions. An example of the effective use of institutional controls for remediation in urban areas is the cleanup currently being performed at an old lead smelter site in Murray, Utah. Like Everett, the former smelter area has been converted to commercial/residential uses since the smelter shut down. The remedy calls for excavation of approximately 60,000 cubic yards of soils containing flue dust and arsenic trioxide with an average arsenic concentration around 9,000 ppm. The material will be contained in a fully encapsulated repository system to form the base of a roadway through the site. The roadway will provide enhanced site access and has led to a developer acquiring the land to construct commercial/service facilities, thus capping the remainder of the site. The repository is within 50 feet of current residences; however, with institutional controls administered by the city, the remedy is protective by preventing direct contact with the materials and by preventing migration of arsenic from the materials. With the use controlled by zoning, cleanup levels for the commercial area adjacent to the repository have been established at 5,600 ppm lead and 1,200 ppm arsenic.
The selection of residential remediation levels for recreational areas is unrealistic and fails to consider actual arsenic exposure. With respect to recreational areas, WAC 173-340-740(1)(d) provides clear flexibility for Ecology to set cleanup levels on a case-by-case basis, as noted in draft CAP Section 4.1.2. However, Ecology states that, "Since these (recreational) areas are all adjacent to or in the general vicinity of residential areas, and since cleanup to residential standards is practicable, cleanup levels will be established in accordance with residential use." Once again Ecology is using an assumed practicability of cleanup to residential cleanup levels as a basis to justify setting a cleanup level for non-residential areas. No analysis of practicability is presented in the draft CAP nor is a substantial and disproportionate analysis of cost presented. Potential exposure to arsenic in soils at a golf course or park is vastly different than for a residential area. While it is logical to assume that children play in playgrounds, it is not logical to assume that the same child, the hypothetical "reasonably maximally exposed" child, will play there every day for six years. Common sense dictates that a remediation level would be higher for recreational areas where exposure is infrequent, and irregular, than for residential areas. The cost estimated to excavate and replace surface soils with arsenic just above 20 ppm from recreational areas is disproportionate to the negligible additional protection provided. The remediation of commercial areas at Everett should be based on realistic exposure scenarios and a recognition of the effective restriction of current and future land use due to zoning. Only by using institutional controls can substantial and disproportionate costs be avoided.

GQ	Comment ID	Last Name
4.2.2	376	Glass

Comment

See CAP Figure 6-6, page 85: As noted in the text, these soil volume estimates are only for those residential properties in the peripheral area for which interpolated values are included in the database. They are understood to be imperfect estimates. The comparison of soil volumes reflected in the two columns is nevertheless meaningful. The EIS includes an estimate of total soil removal volumes for the selected remediation levels in the peripheral area, including both residential and non-residential properties (see EIS Tables 3-4 and 4-3). The total volume estimated in the EIS is 162,000 cubic yards, with perhaps an additional minor increment of 4,000 CY of >3,000 ppm arsenic soils for disposal at Arlington, OR (see page A4-42). The CAP states in section 4.1.2 that cleanup standards for commercial and recreational land use areas within the site will be identical to those for residential areas. Apparently the same remediation levels also will apply to all peripheral area properties, regardless of current land use. Given the extent and locations of non-residential areas in the peripheral area, it is likely that more than 21,000 cubic yards of accessible soil (the difference between the EIS total estimate of 166,000 CY and the 145,000 CY shown for residential properties in Figure 6-6) will exceed the stated remediation levels. The two volume estimates appear to be incommensurate. Ecology should consider additional discussion in the CAP regarding non-residential property cleanup actions in the peripheral area. The practicability analyses for applying the same cleanup levels and remediation levels at non-residential properties should be further developed and presented. I understand that soil arsenic criteria for non-residential land uses are being developed at another MTCA site (Former DuPont Works), which may provide some comparison analyses. With respect to sampling at non-residential properties, would it not be reasonable to modify the size of decision units to something greater than 4,000 square feet?

GQ	Comment ID	Last Name
4.2.2	414	Aldrich

Comment

Furthermore, Ecology appears to have decided that these remediation levels should be applied to commercial and adult recreational settings (e.g., golf course), even though residential child-based exposure scenarios on which its calculations are based are not appropriate for these land uses. In using the method B values as a spring board to a 20 ppm "background" based value, Ecology perpetuates the same flaws in logic and compounds those flaws by not recognizing the larger difference in potential for exposure between the different settings.

GQ	Comment ID	Last Name
4.2.3	29	Robison

Comment

The golf course would not need to be cleaned further down as a residential area.

GQ	Comment ID	Last Name
4.2.3	40	White

Comment

Application of the 20 ppm standard to property in residential use is unnecessary; application of the same standard to non-residential uses is unreasonable. There is no basis for applying the 20 ppm standard to commercial, park or institutional uses. The 20 ppm standard is based upon daily exposure by a young child for six years. Surely this is not relevant to land under a commercial parking lot or to the golf course. Yet, the DCAP will require every commercial property on Broadway, for example, to be cleaned up to the 20 ppm standard when the time comes that new construction or remodeling exposes soil. Given the permanent nature of the enforcement action, that time will come; it's just a matter of when.

GQ	Comment ID	Last Name
4.2.3	111	Ryan

Comment

The same cleanup standards and remediation levels seem to apply to the entire peripheral area regardless of current zoning or usage. The sampling design reflects this assumption. I feel that a clearly higher level might be applied to the commercial zone along Broadway with the possible exception of the current trailer court. The golf course could be given some higher remediation level considering its usage by adults on a lower frequency level than residential properties. If the 1 in 400 sq. ft sampling is used for the golf course, it seems it would be unreasonably expensive for sampling costs. Perhaps the size of decision units should be reconsidered here.

GQ	Comment ID	Last Name
4.2.3	142	Aldrich

Comment

Secondly, institutional controls (which the draft CAP relies on after excavation of soils, but not in evaluating the benefit of performing the excavation of surface soils) are already in place in the business district in the form of zoning restrictions, which prevent residential development. Maintenance of these controls would be a minor component of the overall cleanup action. In addition, the draft CAP is internally inconsistent with respect to the role of institutional controls in the overall remedy. Page 75 contains the following statement, "Ecology has no confidence that institutional controls will adequately prevent exposure to elevated concentrations of contaminants." This position is used to support the draft CAP's position that surface soils with arsenic above 20 ppm must be excavated in all areas including commercial and recreational. However, on page 95 the draft CAP states, "Institutional controls are a critical component of the cleanup action plan at the Everett Smelter Site." The reality is that even the cleanup proposed by Ecology has a fundamental reliance on institutional controls to prevent unacceptable exposures. However, the failure to apply this logic "up front" during the development of remedial actions results in an unbalanced remedy, which relies on excessive soil removal actions in residential and non-residential areas. Institutional controls have been used as an effective method of preventing exposure to metals in soils at numerous similar large urban sites throughout the country, the principal control being to maintain or create areas where residential use is prohibited by zoning restrictions. An example of the effective use of institutional controls for remediation in urban areas is the cleanup currently being performed at an old lead smelter site in Murray, Utah. Like Everett, the former smelter area has been converted to commercial/residential uses since the smelter shut down. The remedy calls for excavation of approximately 60,000 cubic yards of soils containing flue dust and arsenic trioxide with an average arsenic concentration around 9,000 ppm. The material will be contained in a fully encapsulated repository system to form the base of a roadway through the site. The roadway will provide enhanced site access and has led to a developer acquiring the land to construct commercial/service facilities, thus capping the remainder of the site. The repository is within 50 feet of current residences; however, with institutional controls administered by the city, the remedy is protective by preventing direct contact with the materials and by preventing migration of arsenic from the materials. With the use controlled by zoning, cleanup levels for the commercial area adjacent to the repository have been established at 5,600 ppm lead and 1,200 ppm arsenic.
The selection of residential remediation levels for recreational areas is unrealistic and fails to consider actual arsenic exposure. With respect to recreational areas, WAC 173-340-740(1)(d) provides clear flexibility for Ecology to set cleanup levels on a case-by-case basis, as noted in draft CAP Section 4.1.2. However, Ecology states that, "Since these (recreational) areas are all adjacent to or in the general vicinity of residential areas, and since cleanup to residential standards is practicable, cleanup levels will be established in accordance with residential use." Once again Ecology is using an assumed practicability of cleanup to residential cleanup levels as a basis to justify setting a cleanup level for non-residential areas. No analysis of practicability is presented in the draft CAP nor is a substantial and disproportionate analysis of cost presented. Potential exposure to arsenic in soils at a golf course or park is vastly different than for a residential area. While it is logical to assume that children play in playgrounds, it is not logical to assume that the same child, the hypothetical "reasonably maximally exposed" child, will play there every day for six years. Common sense dictates that a remediation level would be higher for recreational areas where exposure is infrequent, and irregular, than for residential areas. The cost estimated to excavate and replace surface soils with arsenic just above 20 ppm from recreational areas is disproportionate to the negligible additional protection provided. The remediation of commercial areas at Everett should be based on realistic exposure scenarios and a recognition of the effective restriction of current and future land use due to zoning. Only by using institutional controls can substantial and disproportionate costs be avoided.

GQ	Comment ID	Last Name
4.2.3	376	Glass

Comment

See CAP Figure 6-6, page 85: As noted in the text, these soil volume estimates are only for those residential properties in the peripheral area for which interpolated values are included in the database. They are understood to be imperfect estimates. The comparison of soil volumes reflected in the two columns is nevertheless meaningful. The EIS includes an estimate of total soil removal volumes for the selected remediation levels in the peripheral area, including both residential and non-residential properties (see EIS Tables 3-4 and 4-3). The total volume estimated in the EIS is 162,000 cubic yards, with perhaps an additional minor increment of 4,000 CY of >3,000 ppm arsenic soils for disposal at Arlington, OR (see page A4-42). The CAP states in section 4.1.2 that cleanup standards for commercial and recreational land use areas within the site will be identical to those for residential areas. Apparently the same remediation levels also will apply to all peripheral area properties, regardless of current land use. Given the extent and locations of non-residential areas in the peripheral area, it is likely that more than 21,000 cubic yards of accessible soil (the difference between the EIS total estimate of 166,000 CY and the 145,000 CY shown for residential properties in Figure 6-6) will exceed the stated remediation levels. The two volume estimates appear to be incommensurate. Ecology should consider additional discussion in the CAP regarding non-residential property cleanup actions in the peripheral area. The practicability analyses for applying the same cleanup levels and remediation levels at non-residential properties should be further developed and presented. I understand that soil arsenic criteria for non-residential land uses are being developed at another MTCA site (Former DuPont Works), which may provide some comparison analyses. With respect to sampling at non-residential properties, would it not be reasonable to modify the size of decision units to something greater than 4,000 square feet?

GQ	Comment ID	Last Name
4.2.3	414	Aldrich

Comment

Furthermore, Ecology appears to have decided that these remediation levels should be applied to commercial and adult recreational settings (e.g., golf course), even though residential child-based exposure scenarios on which its calculations are based are not appropriate for these land uses. In using the method B values as a spring board to a 20 ppm “background” based value, Ecology perpetuates the same flaws in logic and compounds those flaws by not recognizing the larger difference in potential for exposure between the different settings.

GQ	Comment ID	Last Name
4.2.4	140	Aldrich

Comment

Arsenic cleanup level of 20 ppm is inconsistent with Ecology's evaluation of State-wide risk from drinking water. For the Ecology cleanup levels of 20 ppm for residential soils and their default ingestion assumptions, the expected daily ingested dose of arsenic from soil would be 4 micrograms. However, Ecology also notes that the average drinking water concentration of arsenic in this state is 2 ug/L ("Review of New Science" at 29), which would provide daily adult dose of 4 micrograms, using a standard assumed consumption of two liters/day. Obviously, the State does not regard this level as problematic. Moreover, the current Washington (and federal) drinking water standard for arsenic is 50 ug/L. The daily arsenic dose from drinking water with that concentration would be 100 micrograms. Ecology cannot logically regard any exposure to arsenic in soil above 20 ppm to be a human health concern when it leads to an assumed arsenic ingestion that is no larger than the amount of arsenic the average State resident consumes from drinking water alone on a daily basis. Moreover, the MTCA groundwater standard is 5 ppb. If consumed as drinking water, this would lead to a daily dose of 10 micrograms, 2.5 times higher. Further, the State arsenic drinking water standard is 50 ppb, which would lead to exposure levels 25 times higher, i.e., 100 micrograms/day. The claim that any level of arsenic in soil above 20 ppm creates unacceptable health risk is inconsistent with Ecology's evaluation of risk from drinking water.

GQ	Comment ID	Last Name
4.2.5	39	White

Comment

The cleanup action level proposed in the DCAP needs to be recognized as an extreme standard, eleven times lower that being applied to homes sixty miles to the south of our community under an Ecology-approved plan. It is not possible to accept Ecology's contention that the 20 ppm is essential for the safety of the residents of this community, when the Department has already permitted young children to live with levels many times higher for over eight years and has no schedule for ending this situation. The DCAP pursues a "perfect" solution despite the fact that the result may well be no cleanup. The result is that our community fails to get a "good" cleanup that would leave it safe, because Ecology is pursuing a perfect cleanup.

GQ	Comment ID	Last Name
4.2.5	49	Aldrich

Comment

Section 2.4.1 Soil Contamination, p 15-16; The discussion of soil contamination in 2.4.1 refers specifically to only one arsenic soil concentration - a single measurement of 727,000 ppm. It does acknowledge that levels of arsenic diminish with distance from the smelter area, but for a more balanced and accurate description, the draft CAP should acknowledge that in the peripheral area arsenic levels are much lower and that much of the contamination the draft CAP addresses is in the 20 to 230 ppm range; i.e., below levels that required remediation at the Ruston/North Tacoma site.

GQ	Comment ID	Last Name
4.2.5	244	Aldrich

Comment

Inconsistency with cleanup levels approved at Ruston. Despite detailed submissions from Asarco on the Ruston smelter cleanup, the draft CAP contains no discussion or explanation of why a different cleanup level should be used at Everett than was used at the Ruston site. Indeed, the Ecology Review of "New Science" at 21 describes the Ruston site as having "conditions very similar to those at Everett." However, at the Ruston site, EPA, with Ecology's concurrence, selected a residential soil cleanup level of 230 ppm. Similarly, Ecology fails to explain why the 250 ppm cleanup level recently approved by EPA as protective of human health at the Anaconda Superfund site in Montana, is not protective at Everett. Asarco specifically requested Ecology to make this evaluation in its July 1998 submission.

GQ	Comment ID	Last Name
4.2.5	325	Aldrich

Comment

As explained in Asarco's response to Ecology's Review of "New Science," numerous scientific studies demonstrate that elevated urinary arsenic levels are not observed even in populations with much higher levels of exposure. They clearly demonstrate that much higher cleanup levels, such as the 230 ppm Ruston level that Ecology has previously agreed to, are protective of human health. See Section E, Statements of Drs. Beck, Tsuji and Schoof. Follow-up monitoring at Ruston demonstrates that remediation of soils to a level of 230 ppm is sufficient to prevent elevation of urinary arsenic levels above normal.

GQ	Comment ID	Last Name
4.2.5	405	Aldrich

Comment

In reviewing the draft CAP, it is immediately apparent that there are significant differences between the remedial actions proposed for Everett and those being implemented at the nearby Ruston/North Tacoma Site. Although the environmental and human health issues at the two sites are identical, and Ecology itself notes that the two sites are very similar, Ecology has chosen to ignore the logical relationship between these sites in preparing the Everett draft CAP. Ecology is heavily involved in the ongoing implementation of the Ruston/North Tacoma Site remedy, and concurred with EPA as to the protectiveness of that remedy. However, the draft CAP does not acknowledge Ecology's support of the Ruston/North Tacoma Site Record of Decision, nor does it justify the inconsistency between Ecology's plans for Everett and their decisions at Ruston/North Tacoma. Further, the draft CAP fails to recognize that the Ruston/North Tacoma remedy is effective in meeting Ecology's threshold requirement of protection of human health and the environment. In developing the Cleanup Action Plan for the Everett Smelter Site, Ecology should fully consider the record for Ruston/North Tacoma and the logical application of that decision to Everett.

GQ	Comment ID	Last Name
4.2.5	415	Aldrich

Comment

At the many sites like Everett that exist around the country, the agencies responsible for making cleanup decisions recognize the limitations of a risk assessment process based exclusively on a linear extrapolation and use calculated estimates of risk along with other relevant information to make decisions about remedial activities. At the nearby Ruston/North Tacoma Site in Ruston, Washington, where estimates of risk were appropriately considered along with other project factors, a residential soil removal and replacement remediation level of 230 ppm arsenic was coupled with institutional controls for soils with concentrations of arsenic between 20 ppm and 230 ppm. Ecology accepted this value as protective of human health and, by necessary implication, as consistent with MTCA. (In fact, Ecology also notes in its Review of New Science that the Ruston Site is similar to Everett.) At the Bunker Hill Superfund Site in northern Idaho, where exhaustive evaluations of risk were conducted, a value of 100 ppm arsenic was selected not as a soil removal level, but as the acceptable arsenic concentration for clean soils being brought into the site to replace contaminated soils. At both of these sites, and many others, the full body of information on metals toxicity was examined and complemented by new information from those sites. In addition, the results of detailed risk assessments were considered along with the other fundamental factors discussed below to make risk-management decisions bearing on the selection of remediation levels and appropriate cleanup actions. Additional comments on those other important aspects of the remedy selection process are provided in the subsequent general comments.

GQ	Comment ID	Last Name
4.3.1	143	Aldrich

Comment

Section 4.1.3 Ground Water pages 46-47 As noted in the following comment on Section 4.1.4 (Surface Water), investigation of groundwater conditions at the site, including the relationship between groundwater in the Upland Area and the Lowland Area, is continuing at this time. It is premature to define cleanup levels and points of compliance for groundwater until such time as the supporting studies are completed. These studies include evaluation of the source(s) of elevated arsenic in groundwater and the fate and transport of arsenic in groundwater. It is noted that the Ecology-approved cleanup in late 1998 at the nearby Mill E/Koppers facility, where wood treating with arsenic compounds occurred, does not address large areas of groundwater with arsenic concentrations 100 to 1000 times the cleanup level noted in the draft CAP for that site (also 5 ug/L) adjacent to, and flowing into the Snohomish River.

GQ	Comment ID	Last Name
4.3.1	147	Aldrich

Comment

In addition, it is premature to establish surface water and groundwater cleanup levels prior to completion of the storm water and storm drain characterization program and the associated supplemental investigation of the lowland area. These ongoing investigations, the results of which will be integrated in a comprehensive report, are expected to characterize surface water and groundwater quality and quantity, and the interactions of these two media. The appropriate cleanup levels and points of compliance are dependent on the full characterization of these media and, thus, should not be defined until after the comprehensive report is completed and the subsequently required Feasibility Study is initiated.

GQ	Comment ID	Last Name
4.3.2	400	Glass

Comment

The background levels of arsenic in area ground water may well be greater than the current arsenic criteria and cleanup standards for surface water. If background-based cleanup standards are to be developed for ground water (or surface water), Ecology should take care in developing or reviewing proposed background study protocols.

GQ	Comment ID	Last Name
4.3.3	356	Soine

Comment

Section 4.1.3 Ground Water: The City may be interested in the future use of ground water for irrigation purposes at Legion Park and Legion Golf Course.

GQ	Comment ID	Last Name
4.3.4	355	Soine

Comment

The terms surface water, ground water and storm water should be defined in the document. In the final version a glossary or definitional section should be included.

GQ	Comment ID	Last Name
4.4.1	144	Aldrich

Comment

Section 4.1.4 Surface Water. pages 47-48 The definition of cleanup levels and compliance points for surface water is inappropriate from a variety of perspectives. First, the definition of the point of compliance for surface water as throughout the Upland Area of the Everett Smelter Site is not consistent with State regulations. Most of the storm water runoff in the upland area is captured by the City of Everett's combined sewer system and conveyed to the treatment facility. Therefore, it does not constitute "surface waters of the state," as defined in WAC 173-201A-020, which clearly differentiates between surface waters of the state and storm water. Furthermore, WAC 173-340-730(1)(b) states that "Ecology does not expect that cleanup standards will be applied to storm water runoff that is in the process of being conveyed to a treatment system." In addition, Enforcement Order No. DE97TC-N1 19 stated that regulatory limits for discharge to the City's system are as follows: Arsenic - 0.50 mg/L, Cadmium - 0.24 mg/L, Lead - 1.89mg/L.

GQ	Comment ID	Last Name
4.4.1	145	Aldrich

Comment

Second, the cleanup level used was selected to protect aquatic organisms in surface water bodies. Ecology's application to surface water runoff entering storm drains in a residential/commercial area clearly defies common sense for this type of protection. Water entering the storm drain in the upland should not be required to meet a standard applicable to a distant water body. It is entirely unrealistic to assume that the physical pathways will not dilute the concentrations. Water in storm drains typically has several hundred yards to travel before being collected by the City of Everett's main combined sewer system, this water undergoes mixing and treatment prior to discharge to the river. While a relatively small amount of site runoff discharges directly to the river after mixing with runoff from other areas, there is no evidence that these discharges have resulted in any exceedance of water quality standards in the river. The statement that "no dilution zone has been authorized" is simply an administrative statement that ignores the physical reality of dilution.

GQ	Comment ID	Last Name
4.4.1	147	Aldrich

Comment

In addition, it is premature to establish surface water and groundwater cleanup levels prior to completion of the storm water and storm drain characterization program and the associated supplemental investigation of the lowland area. These ongoing investigations, the results of which will be integrated in a comprehensive report, are expected to characterize surface water and groundwater quality and quantity, and the interactions of these two media. The appropriate cleanup levels and points of compliance are dependent on the full characterization of these media and, thus, should not be defined until after the comprehensive report is completed and the subsequently required Feasibility Study is initiated.

GQ	Comment ID	Last Name
4.4.1	324	Aldrich

Comment

The EO further states that storm water flowing to the lowland is subject to WAC 173-340-730. Storm water entering the City's system should be evaluated by the City's pretreatment standards and not WAC 173-340-730.

GQ	Comment ID	Last Name
4.4.2	146	Aldrich

Comment

Finally, the cleanup level for arsenic is set below the background level for Puget Sound waters, which is 2 ug/L.l

GQ	Comment ID	Last Name
4.4.2	400	Glass

Comment

The background levels of arsenic in area ground water may well be greater than the current arsenic criteria and cleanup standards for surface water. If background-based cleanup standards are to be developed for ground water (or surface water), Ecology should take care in developing or reviewing proposed background study protocols.

GQ	Comment ID	Last Name
4.5.1	334	Aldrich

Comment

Section 4.1.5 Storm Drain Sediment. pages 48-49. The cleanup standards for storm drain sediment are based on definition of the sediment as problem waste if it contains arsenic above 20 ppm (and other levels for other metals). However, this classification is based on Ecology's 20 ppm remediation level for residential soils, which as discussed earlier, fails to account for new science and is unrealistically low. The only exposure to drain sediments, if any occurs, would be to workers cleaning the drains. Ecology's 20 ppm cleanup level is based on a hypothetical child ingesting soil for 6 years. No such exposure could possibly occur for storm drain sediment. In addition, Asarco is not responsible for all sediment with contaminant concentrations above the residential cleanup levels in the upland area. As Ecology is aware, the City of Everett conducted a right-of-way sampling investigation and data showed that arsenic concentrations above 20 ppm were detected throughout the City. It was determined that other sources of imported gravel were an important source of arsenic. There are also other urban sources of arsenic which could contribute to above-background levels, as discussed in comments on Section 2.4.1. The cleanup level for mercury is given as 24 ppm in Section 4.1.5 but is listed as 1 ppm in Table 4-1.

GQ	Comment ID	Last Name
4.5.1	357	Soine

Comment

Section 4.1 .5, 6.6 and 7.2.5 Storm Drain Sediment: The City currently composts and recycles storm drain sediments. The Snohomish Health District requires that these sediments meet MTCA Method A soils levels (Arsenic: 20 mg/Kg, Lead: 250 mg/Kg, Cadmium: 2 mg/Kg), despite the fact that the table was not designed for this purpose, and there is an explicit caution in the Ecology MTCA Rules about using these levels for other purposes. Storm drain sediments cleanup levels should reflect the standards currently imposed upon the City by the Snohomish Health District or there should be a mechanism to reimburse the City for any additional expenses incurred to dispose of the sediments in question if the MTCA cleanup levels are not met. Alternatively, the Snohomish Health District could adopt the State composting guidelines (Arsenic: 20 mg/Kg, Lead: 150 mg/Kg, Cadmium: 20 mg/Kg). These guidelines should then be used as the storm drain sediment cleanup levels. How will the monitoring of storm drain sediment be accomplished, i.e., by whom, and how will the costs be paid? If sediments exceeding cleanup levels are found, who will remove and dispose of these materials? What consideration has been given with respect to contamination levels in storm water and storm drain sediments that in themselves may be below the action level but may have an adverse impact on the City of Everett sewage system and/or discharges? (§4.1.4, §6.5, Performance monitoring §§7.2.3, 7.2.4 and 7.2.5, pages 105, 106) Unacceptable accumulations of heavy metals in the biosolids will be reached in the sewage treatment process and the City will be unable to continue with current disposal methods, i.e., the creation of fertilizer for sale and for its own use.

GQ	Comment ID	Last Name
4.5.2	334	Aldrich

Comment

Section 4.1.5 Storm Drain Sediment. pages 48-49. The cleanup standards for storm drain sediment are based on definition of the sediment as problem waste if it contains arsenic above 20 ppm (and other levels for other metals). However, this classification is based on Ecology's 20 ppm remediation level for residential soils, which as discussed earlier, fails to account for new science and is unrealistically low. The only exposure to drain sediments, if any occurs, would be to workers cleaning the drains. Ecology's 20 ppm cleanup level is based on a hypothetical child ingesting soil for 6 years. No such exposure could possibly occur for storm drain sediment. In addition, Asarco is not responsible for all sediment with contaminant concentrations above the residential cleanup levels in the upland area. As Ecology is aware, the City of Everett conducted a right-of-way sampling investigation and data showed that arsenic concentrations above 20 ppm were detected throughout the City. It was determined that other sources of imported gravel were an important source of arsenic. There are also other urban sources of arsenic which could contribute to above-background levels, as discussed in comments on Section 2.4.1. The cleanup level for mercury is given as 24 ppm in Section 4.1.5 but is listed as 1 ppm in Table 4-1.

GQ	Comment ID	Last Name
5.1.1	173	Aldrich

Comment

EIS; Introduction; The project location should be described or included in a separate Project Description section. It should have a map that clearly defines the areas evaluated in the draft EIS.

GQ	Comment ID	Last Name
5.1.1	174	Aldrich

Comment

EIS; Summary; The Summary Section does not comply with WAC 197-11-435 (4). The Summary Section should include a summary of the proposal, impacts, alternatives, mitigation measures, and significant adverse impacts that cannot be mitigated. The summary should also state when the draft EIS is part of a phased review and identify future environmental review.

GQ	Comment ID	Last Name
5.1.1	218	Soine

Comment

Combined CAP/EIS and Land Use. The document was to have been a combined MTCA/SEPA/GMA document that would provide the documentaiton for the City's land use decision as well as Ecology's cleanup decision. The separate "SEPA evaluation" section in the DCAP (Section 5.3) and the separate DEIS do not add much in the way of useful comparative environmental analysis of the alternatives. In fact at least 12 of the 14 elements of the environment discussed (including transportation) note that there is not significant difference among the alternatives. The only element that appears to indicate a potentially significant difference is "earth," which is really about "land use" (views). This is in distinct contrast with the elucidating analysis on pages 68-95 of the DCAP addressing real environmental difference among the alternatives.

GQ	Comment ID	Last Name
5.1.1	237	Aldrich

Comment

EIS; References; This section does not reference all documents in this draft EIS. Several references appear to be missing. This would also include personal communications (documented in the draft EIS).

GQ	Comment ID	Last Name
5.1.1	238	Aldrich

Comment

The draft EIS does not integrate MTCA and SEPA provisions as required by the regulations. Page 41 of the draft CAP references the integration of MTCA and SEPA. It is not clear in the draft EIS how MTCA and SEPA provisions have been functionally integrated. It is incumbent on Ecology to include in the draft EIS a description of the integration process in accordance with WAC 197-11-262, particularly discussing the following: Determination of Significance; Timing of draft EIS in relationship to RI/FS and draft CAP; and, Format of draft EIS. The overall purpose of the draft EIS is to provide an objective, unbiased assessment of potential impacts among various alternative actions. Within the context of the impact analysis, it often appears as if Ecology is trying to sell one alternative over another based on general and unsubstantiated analyses. In addition, throughout the environmental topic analysis there are often impacts discussed and no mitigation for that impact provided. If this is the case does that mean that the impact will "remain a significant and unavoidable impact?" Also in some instances, there were mitigation measures provided that did not refer back to a designated impact. Some topics seem to be missing entirely from the draft EIS which could be relevant to the alternatives. There is no clear discussion of the scoping process and how this process leads to the topics analyzed in the draft EIS. The topics that come to mind include the following: 1.) Plants and Animals; 2.) Energy and Natural Resources; and, 3.) Historic and Cultural Resources. It is not completely clear throughout the document what actions are actually being evaluated. It is Asarco' s overall understanding that the draft EIS considers actions that are described in the Alternatives Description. These actions include the remediation actions specific to the cleanup of the site and the peripheral area (i.e., the entire upland area of the site). In many instances throughout the document, the document states that only the area within the Former Arsenic Trioxide Processing Area is being considered (see first sentence of the Earth Section-Section 4.1). Yet throughout other topics (and even within the Earth topic) it seems that the Peripheral Area is also being evaluated. Also, there would appear to be some primary or secondary impacts that could result "off-site," particularly related to Aesthetics, Land Use, Groundwater, Surface Water, or Transportation topics. The draft EIS needs a coherent, complete Project Description that is entirely consistent with the draft CAP. The project description merely describes how the relevant provisions of MTCA and SEPA will be integrated at this site. The Project Descriptions should include a definition of the project site, actions to be taken, and connection to future actions. The draft EIS must clearly define the project study area. The project description could include a description of the Former Arsenic Trioxide Processing Area, the Peripheral Area and the Project Study Area to allow ease in determining specific impacts relative to specific areas. In addition, the Project Description must also include a discussion regarding project scoping and future environmental review particularly related to redevelopment of the site. It is unclear as to how this project is interrelated with the future land use of the site. The future land use is discussed within the context of the environmental topics impacts analysis and used to show "negative impacts" or "beneficial impacts" in the discussion of alternatives. There is no discussion within the Project Description that builds a foundation for this analysis.

GQ	Comment ID	Last Name
5.1.1	239	Aldrich

Comment

The draft EIS is inconsistent with the draft CAP and inadequately cross-referenced for it to be a functional companion document to the draft CAP. It is clear that the draft EIS is intended to be used as a companion document to the draft CAP, minimizing the need to restate items from one document in the other. This practice, while somewhat cumbersome, requires the draft EIS and draft CAP to be adequately cross-referenced and internally consistent. The document is often internally inconsistent. Inconsistencies occur between the draft CAP and the draft EIS and, in several instances, between specific sections in the draft EIS. In some instances, there are inconsistencies within the specific sections (e.g., Transportation Section). The draft EIS is not sufficiently clear or adequately cross-referenced, either in the descriptions of what is contemplated, the impacts, or potential mitigation actions that could be implemented to allow a coherent analysis of the draft CAP. Specific questions, clarifications, or suggestions are provided in Asarco's detailed comments on the draft EIS; however, some examples provide a sense of the above mentioned problems. It is not uncommon to find graphics that are used to illustrate issues in the draft EIS that can only be located in the draft CAP. Acronyms and Abbreviations used in the draft EIS were not always defined; when referring back to the draft CAP, these Acronyms and Abbreviations are not listed. References cited in the draft EIS could not be found in either reference section. In several instances throughout the document, the topics are referenced that have not yet been discussed. This forces the reader to look ahead in the document to find and clarify the information being presented. As a result, it is very easy to become confused and misunderstand the impacts associated with particular actions or alternatives.

GQ	Comment ID	Last Name
5.1.1	363	Soine

Comment

The City has made few specific comments on the DEIS because the cleanup plan and related future land use decisions are clearly the agencies' focus at this stage of the process, and the EIS work has not been integrated as we had understood it would be. We note that the document needs to address possible impacts in view of the Endangered Species Act. We would also note that where the cleanup plan is revised to address the critical issues noted in this comment letter, the EIS would need to reflect the analysis and revisions (which would have been simpler to accomplish in a single document).

GQ	Comment ID	Last Name
5.1.1	365	Soine

Comment

DEIS A single integrated MTCA/SEPA document would be preferable, however, we have no desire to delay implementation of the cleanup. Recognizing that the draft documents have been issued in their current form, we recommend that an environmental summary per the SEPA rules be included in the final CAP, synthesizing the key considerations in Section 6 of the CAP to highlight the environmental choices and the basis for preserving or foreclosing certain options for the future. This might also provide an example for other sites in Everett and elsewhere in the state where cleanup and future land use considerations are interrelated.

GQ	Comment ID	Last Name
5.1.2	337	Soine

Comment

The environmental impact sections do not address basic land use and infrastructure considerations for interim or future reuse, as we discussed and requested. The document as written does not integrate the necessary analysis under GMA and SEPA as had been agreed in the scoping process.

GQ	Comment ID	Last Name
5.1.2	339	Soine

Comment

With cooperation from Ecology staff, the City believes it is still possible to document and incorporate the analysis that has been conducted to date and for this information to be included in the final CAP/EIS without delaying the cleanup process. Failure to do so will likely delay the cleanup since the proposed consolidation facility does not appear to be consistent with the current comprehensive plan designation for the site.

GQ	Comment ID	Last Name
5.1.2	363	Soine

Comment

The City has made few specific comments on the DEIS because the cleanup plan and related future land use decisions are clearly the agencies' focus at this stage of the process, and the EIS work has not been integrated as we had understood it would be. We note that the document needs to address possible impacts in view of the Endangered Species Act. We would also note that where the cleanup plan is revised to address the critical issues noted in this comment letter, the EIS would need to reflect the analysis and revisions (which would have been simpler to accomplish in a single document).

GQ	Comment ID	Last Name
5.1.2	365	Soine

Comment

DEIS A single integrated MTCA/SEPA document would be preferable, however, we have no desire to delay implementation of the cleanup. Recognizing that the draft documents have been issued in their current form, we recommend that an environmental summary per the SEPA rules be included in the final CAP, synthesizing the key considerations in Section 6 of the CAP to highlight the environmental choices and the basis for preserving or foreclosing certain options for the future. This might also provide an example for other sites in Everett and elsewhere in the state where cleanup and future land use considerations are interrelated.

GQ	Comment ID	Last Name
5.1.2	404	Soine

Comment

We note that the EIS needs to address possible impacts in view of the Endangered Species Act.

GQ	Comment ID	Last Name
5.1.3	156	Aldrich

Comment

Figure 6-6 page 85 It is unclear how Ecology derived the volume of soil to be removed in the Peripheral Area (145,000 cubic yards). Appendix A, Section 3 has estimated that approximately 166,000 cubic yards would be excavated. Asarco's comments on the volume estimate are contained in the draft EIS comments.

GQ	Comment ID	Last Name
5.1.3	240	Aldrich

Comment

The draft EIS significantly underestimates the impacts arising from implementation of the draft CAP. The most overarching deficiency of the draft EIS is the consistent underestimation of the level of disruption within the community that will arise from implementing the draft CAP and the significant impacts, including health impacts and risk of fatalities associated with the work described in the draft CAP. There is no better example of this misrepresentation than the estimation of volumes to be excavated and backfilled (see Section 3.4). It is not clear how Ecology estimated 166,000 cubic yards from the peripheral area. Asarco does not understand why Ecology has not included recent data, particularly the boundary study performed by SAIC in 1997. Asarco believes that this data shows the area subject to soil removal and replacement would expand, resulting in a substantial increase in volume over that estimated in the draft EIS. During mediation, the Technical Work Group agreed to several assumptions regarding volume estimates, including average size of a residential yard and number of decision units that require soil removal. The estimated volumes for alternatives most similar to the draft CAP ranged from 357,000 cubic yards or 643,000 tons (Alternative B), to 243,500 cubic yards or 438,000 tons (Alternative C). Asarco acknowledges that the cleanup and remediation levels are different in the draft CAP from those identified in the Technical Work Group alternatives. However, the changes in the cleanup and remediation levels in the draft CAP do not significantly change the volume estimated during mediation. For example, reviewing the Alternatives B and C, some reduction is provided in the draft CAP with removal of soil greater than 20 ppm to 12" instead of 18"; these are off set by more stringent remediation levels at depth. Therefore, the actual volume will still likely be somewhere in between the Alternative B and C estimates. Consequently, the draft EIS estimate is significantly low. Higher volumes result in a proportionally higher cost for implementation along with greater disruption over a longer period in the neighborhoods and a greater risk of accidents. The draft EIS does not reflect these realistic, probable volume estimates. Rather, the draft EIS implies that the estimated 166,000 cubic yards will be excavated from residential neighborhoods (see Section 4.10.2.2). An average of 300 cubic yards of soil is estimated to be removed from each residence. Based on this information, it appears that Ecology has not accounted for any soil removal from commercial sites, public areas, and forested areas. Available data indicate that these areas contain arsenic concentrations greater than 20 ppm. Asarco has estimated that a total of approximately 310,000 cubic yards will be excavated from the peripheral area yards if the draft CAP is implemented. Of that, approximately 220,000 cubic yards will be excavated from about 525 residential properties and another 90,000 cubic yards of soil will be excavated from non-residential properties, including three unpaved commercial properties, the mausoleum, American Legion Park, Wiggums Hollow Park, three forested areas east of East Marine View Drive, residential right-of-ways, and the cloverleafs at the intersection of SR529 and East Marine View Drive. These volume estimates are described in Asarco's cost estimate (see Attachment H-2).

GQ	Comment ID	Last Name
5.1.4	175	Aldrich

Comment

Section 4.1 Earth Section; This section is only limited to topography. It should also include discussion of soils, geology and unique physical features (or natural geological hazards such as landslides, erosion, seismic). Later in the document (Environmental Health), there are references to potential earthquakes, yet geological natural disasters are not discussed in this section. Later in the document, it appears the only mitigation offered is to minimize topographic impacts. No mitigation is provided to eliminate topographic impacts. There is no mention that a redevelopment draft EIS will be done. As stated under general comments, this phased review process should be discussed in the Summary Section or Introduction Section of this document. Section 3.3.5 has a discussion of excavation and backfill, but is not related to the Earth Section. No further discussion is made with the exception of the view-shed discussion of page AA-1.

GQ	Comment ID	Last Name
5.1.4	185	Aldrich

Comment

EIS; Section 4.5 Environmental Health Section 4.5.2.1. Section 4.5.2.3. Natural disasters such as earthquakes or floods are not discussed as potential issues in the earth or water sections.

GQ	Comment ID	Last Name
5.1.5	175	Aldrich

Comment

Section 4.1 Earth Section; This section is only limited to topography. It should also include discussion of soils, geology and unique physical features (or natural geological hazards such as landslides, erosion, seismic). Later in the document (Environmental Health), there are references to potential earthquakes, yet geological natural disasters are not discussed in this section. Later in the document, it appears the only mitigation offered is to minimize topographic impacts. No mitigation is provided to eliminate topographic impacts. There is no mention that a redevelopment draft EIS will be done. As stated under general comments, this phased review process should be discussed in the Summary Section or Introduction Section of this document. Section 3.3.5 has a discussion of excavation and backfill, but is not related to the Earth Section. No further discussion is made with the exception of the view-shed discussion of page AA-1.

GQ	Comment ID	Last Name
5.1.5	176	Aldrich

Comment

EIS; Section 4.1.1. The Affected Environment subsection is not clear how the Former Arsenic Processing Area fits with the adjacent neighborhood or the Peripheral Area.

GQ	Comment ID	Last Name
5.1.6	150	Aldrich

Comment

Section 5.3.2.1 Earth. Impact Mitigation. page 60 It appears that this section contradicts the draft EIS. It states that the grade change should not increase from the existing maximum elevation. Section 4.1.2.5, page A44 in the draft EIS states that a two foot increase in elevation is allowed near Hawthorne Street and higher elsewhere. It is Asarco's experience at other sites that a minimum of four feet of clean material is necessary to accommodate utilities. Therefore in order to comply with the draft EIS in only having a two foot increase in elevation near Hawthorne Street and by providing four feet of clean material, it may not be practical to backfill 42,000 cubic yards of peripheral soil as suggested in the draft EIS (page A3-31). By backfilling 25,000 cubic yards of peripheral soil (same volume as removed) and keeping a two foot grade increase near Hawthorne Street along with four feet of clean material, it is expected that a grade increase of about 5 feet would occur elsewhere.

GQ	Comment ID	Last Name
5.1.6	175	Aldrich

Comment

Section 4.1 Earth Section; This section is only limited to topography. It should also include discussion of soils, geology and unique physical features (or natural geological hazards such as landslides, erosion, seismic). Later in the document (Environmental Health), there are references to potential earthquakes, yet geological natural disasters are not discussed in this section. Later in the document, it appears the only mitigation offered is to minimize topographic impacts. No mitigation is provided to eliminate topographic impacts. There is no mention that a redevelopment draft EIS will be done. As stated under general comments, this phased review process should be discussed in the Summary Section or Introduction Section of this document. Section 3.3.5 has a discussion of excavation and backfill, but is not related to the Earth Section. No further discussion is made with the exception of the view-shed discussion of page AA-1.

GQ	Comment ID	Last Name
5.1.6	177	Aldrich

Comment

EIS; Section 4.1.1. last paragraph. This is actually a discussion of an impact and should be discussed in the next subsection (Impacts).

GQ	Comment ID	Last Name
5.1.6	178	Aldrich

Comment

EIS; Section 4.2.3. Dangerous Waste is mentioned above in section 4.2.2 but is not mentioned in this section.

GQ	Comment ID	Last Name
5.1.6	179	Aldrich

Comment

EIS; Section 4.2.3. The impact section is difficult to follow for the lay person. The analysis states that the "grade could be raised somewhat more than 4 feet in the downhill area..." but then the mitigation (4.1.2.4) says it should be "less than 2 feet." In addition, it is not consistent with information regarding grade and fill discussed in the draft CAP.

GQ	Comment ID	Last Name
5.1.6	265	Taylor

Comment

Topographic impacts would be significant with Consolidation including a change in grade of "approximately 4 feet above the existing grade" causing "impeded" views from nearby residences.

GQ	Comment ID	Last Name
5.1.7	150	Aldrich

Comment

Section 5.3.2.1 Earth. Impact Mitigation. page 60 It appears that this section contradicts the draft EIS. It states that the grade change should not increase from the existing maximum elevation. Section 4.1.2.5, page A44 in the draft EIS states that a two foot increase in elevation is allowed near Hawthorne Street and higher elsewhere. It is Asarco's experience at other sites that a minimum of four feet of clean material is necessary to accommodate utilities. Therefore in order to comply with the draft EIS in only having a two foot increase in elevation near Hawthorne Street and by providing four feet of clean material, it may not be practical to backfill 42,000 cubic yards of peripheral soil as suggested in the draft EIS (page A3-31). By backfilling 25,000 cubic yards of peripheral soil (same volume as removed) and keeping a two foot grade increase near Hawthorne Street along with four feet of clean material, it is expected that a grade increase of about 5 feet would occur elsewhere.

GQ	Comment ID	Last Name
5.1.8	180	Aldrich

Comment

EIS; Section 4.2 Air Quality; Section 4.2.4. This section should be directly related to the transportation analysis (Section 4.10).

GQ	Comment ID	Last Name
5.1.9	181	Aldrich

Comment

EIS; Sections 4.3 and Section 4.4 Surface Water and Ground Water; These sections should have an introduction stating where the information was developed for this section. Both sections appear to be a summary of reports completed by Hydrometrics. These reports are not referenced. Much of the impact analysis refers to the impacts to the Lowland area which is addressed in this draft EIS. See comments under General Comments regarding definition of the "Study Area." Table 4-1. The source of this information is not given.

GQ	Comment ID	Last Name
5.1.10	181	Aldrich

Comment

EIS; Sections 4.3 and Section 4.4 Surface Water and Ground Water; These sections should have an introduction stating where the information was developed for this section. Both sections appear to be a summary of reports completed by Hydrometrics. These reports are not referenced. Much of the impact analysis refers to the impacts to the Lowland area which is addressed in this draft EIS. See comments under General Comments regarding definition of the "Study Area." Table 4-1. The source of this information is not given.

GQ	Comment ID	Last Name
5.1.11	185	Aldrich

Comment

EIS; Section 4.5 Environmental Health Section 4.5.2.1. Section 4.5.2.3. Natural disasters such as earthquakes or floods are not discussed as potential issues in the earth or water sections.

GQ	Comment ID	Last Name
5.1.12	183	Aldrich

Comment

EIS; Section 4.5 Environmental Health Section 4.5.2.1. This section should be expanded to include more information. The assumptions are not given for the MTCA Risk Assessment assumptions and there are no references to this document.

GQ	Comment ID	Last Name
5.1.12	184	Aldrich

Comment

EIS; Section 4.5 Environmental Health Section 4.5.2.3. The statement that the on-site containment facility "could cause permanent and potentially lethal health affects" is not substantiated scientifically and the likelihood of exposure is not evaluated.

GQ	Comment ID	Last Name
5.1.12	219	Aldrich

Comment

EIS; Section 4.5 Environmental Health Section 4.5.2.5. This section does not directly relate to the impacts discussed above (i.e., why the need for signs in crawl spaces and basements). No information is provided that areas are likely to be dangerous.

GQ	Comment ID	Last Name
5.1.13	182	Aldrich

Comment

EIS; Section 4.5 Environmental Health Section 4.5.1. This section (Affected Environment) contains a discussion of impacts. In addition, this section includes a discussion of health hazards as a result of surface waters (paragraph 4). Impacts to the surface water do not appear to be identified in the surface water section.

GQ	Comment ID	Last Name
5.1.13	185	Aldrich

Comment

EIS; Section 4.5 Environmental Health Section 4.5.2.1. Section 4.5.2.3. Natural disasters such as earthquakes or floods are not discussed as potential issues in the earth or water sections.

GQ	Comment ID	Last Name
5.1.14	220	Aldrich

Comment

EIS; Section 4.6 Land Use; No relationship to the shoreline or the Shoreline Designation is provided. The draft CAP states that this project is "subject to the Shoreline Act." Is this project subject to the requirements of the Shoreline Management Act? In other parts of the document, the property is listed as R-2 which is inconsistent with this section.

GQ	Comment ID	Last Name
5.1.14	221	Aldrich

Comment

EIS; Section 4.6 Land Use Section 4.6.1.2. The statement that the designations are "essentially compatible" conflicts with the statement in the last paragraph, of Section 4.6.1.1. The statement that the "existing lot sizes exceed the minimum allowed" have no relevance.

GQ	Comment ID	Last Name
5.1.14	222	Aldrich

Comment

EIS; Section 4.6 Land Use Section 4.6.2.3. This is the first mention of RCRA in the draft EIS. It is not understandable to the general reader what conditions are imposed by the provisions of RCRA.

GQ	Comment ID	Last Name
5.1.14	223	Aldrich

Comment

EIS; Section 4.6 Land Use Section 4.6.2.5. Paragraph I - The reference to the mitigation regarding interference with schools has no discussion under the impact analysis that would require this mitigation.

GQ	Comment ID	Last Name
5.1.14	224	Aldrich

Comment

EIS; Section 4.6 Land Use Section 4.6.2.5. Paragraph 2- The statement "Under each alternative" does not appear to include the No Action Alternative.

GQ	Comment ID	Last Name
5.1.15	338	Soine

Comment

Leaving the site in a condition compatible with the neighborhood, preserving future land use options, and facilitating the ability to put the site back to productive use are essential elements of an acceptable final cleanup plan that have not been sufficiently addressed in the draft plan. Indeed, different land uses may require different responses and should be noted in the CAP/EIS.

GQ	Comment ID	Last Name
5.1.15	339	Soine

Comment

With cooperation from Ecology staff, the City believes it is still possible to document and incorporate the analysis that has been conducted to date and for this information to be included in the final CAP/EIS without delaying the cleanup process. Failure to do so will likely delay the cleanup since the proposed consolidation facility does not appear to be consistent with the current comprehensive plan designation for the site.

GQ	Comment ID	Last Name
5.1.15	340	Soine

Comment

The City is providing a summary of the land use plan changes that would be necessary to accommodate the range of land uses considered for this site (see Attachement A). We believe the land uses described in the Exhibit are consistent with the range of land uses discussed by the Land Use committee under the mediation. This exhibit describes the existing land use designations and the processes that would be needed to revise them. It provides a starting point for the land use analysis that needs to be incorporated into the final CAP/EIS to enable the City and Ecology to make their respective decisions. We request a commitment by Ecology to meet with us and to work together to ensure that the additional analysis needed and recommended land use actions will be included in the final CAP/EIS, coordinated with continued, timely review by our Planning Commission, as both Ecology and City had promised the public during the scoping process.

GQ	Comment ID	Last Name
5.1.16	225	Aldrich

Comment

EIS; Section 4.7. Housing; Section 4.7.2.2. It is unlikely that the site will be developed for multi-family residence. In addition, the land use section says that it is designated "single family residential." If it were to be redeveloped as multifamily, it would require a change in the Comprehensive Plan and Zoning designation.

GQ	Comment ID	Last Name
5.1.16	226	Aldrich

Comment

EIS; Section 4.7. Housing Section 4.7.2.3. In order to do a comparative analysis, this alternative would result in either no future development or development as a use other than residential. This should be included in the analysis.

GQ	Comment ID	Last Name
5.1.16	227	Aldrich

Comment

EIS; Section 4.7. Housing Section 4.7.2.4. As stated above, it is stated in the land use section that this site is designated for single-family residential. See above comment (Section 4.7.2.2).

GQ	Comment ID	Last Name
5.1.16	228	Aldrich

Comment

EIS; Section 4.7. Housing Section 4.7.2.5. Under the impact analysis (Section 4.,7.2.1), it is concluded that there was not really an impact or there was a "very small negative effect" if the site was not redeveloped as residential. The mitigation measure stated assumes that there is an impact. In addition, it is unclear how the second sentence relates to this section.

GQ	Comment ID	Last Name
5.1.17	229	Aldrich

Comment

EIS; Section 4.8 Aesthetics Light and Glare Section 4.8.1. View-shed descriptions in the Earth Section of this document are not necessarily consistent with those in this section.

GQ	Comment ID	Last Name
5.1.18	230	Aldrich

Comment

EIS; Section 4.8 Aesthetics Light and Glare Section 4.8.2.1. The statement in this section does not appear to be consistent with previous sections. It seems that the No Action alternative with the existing contamination, fencing, and residual foundations would have a negative impact on the aesthetics of the area.

GQ	Comment ID	Last Name
5.1.19	231	Aldrich

Comment

EIS; Section 4.8 Aesthetics Light and Glare Section 4.8.2.5. There is mitigation relative to the attraction of undesirable uses. However, this is not discussed in the impact section.

GQ	Comment ID	Last Name
5.1.20	232	Aldrich

Comment

EIS; Section 4.9.1 Parks and Recreation Affected Environment; Data does exist in American Legion Memorial Park that indicate much of the area contains arsenic concentrations above 20 ppm (see letter to Dave Nazy, Ecology from Tom Aldrich, Asarco dated April 1, 1997).

GQ	Comment ID	Last Name
5.1.20	366	Glass

Comment

See EIS Figure 4-7: The recreational area of Legion Park, on the northwest corner of the golf course should also be noted as a park/recreation area within the current site boundary (compare EIS Figure 4-5).

GQ	Comment ID	Last Name
5.1.21	378	Glass

Comment

See EIS section 4.9, Parks and Recreation, page A4-39: The EIS proposes that remediation of parks and recreation areas soils in winter would mitigate impacts on public use of those facilities. Does Ecology consider soil remediation in winter, a period of unfavorable wet weather, to be realistic, practical, and cost-effective? Are there precedents for similar soil excavation and removal cleanup actions in winter in western Washington?

GQ	Comment ID	Last Name
5.1.22	361	Soine

Comment

DEIS 4.9.2.3 Mitigation measures for impacts on City of Everett Parks. The remediation and mitigation plans need to be developed in conjunction with the City of Everett Parks Department. It must be noted that there are limits to the extent that geofabric and additional soils may be placed over the root system of a tree before such will kill or injure the tree. These should be addressed in the final cleanup plan.

GQ	Comment ID	Last Name
5.1.23	149	Aldrich

Comment

Section 5.3.1. Alternatives Evaluated. pages 58-59 The discussion in the draft CAP about alternatives fails to address critical issues regarding the relative impact of the alternatives and how adverse consequence could be avoided by alternate decisions. First, it assumes adverse impacts on public health from leaving soil at any level above 20 ppm, but does not identify these effects or discuss them. For example, the draft CAP fails to identify how many children live in the Former Arsenic Trioxide Processing Area and in the Peripheral Area. Of these, how many fall within the group of highly exposed and sensitive children that the cleanup is designed to protect? In other words, the soil ingestion assumptions are addressed to the 95 % UCL child who is assumed to ingest 200 mg of soil/day. Even under Ecology's assumptions, only approximately 5% of the total population of children in the area could fall in this category. Only these children are even theoretically at risk. Ecology has not identified or even estimated the number of such children. Without performing this analysis, Ecology is unable to weigh the purported benefit of cleanups at different levels to the remediation and transportation risks that have been documented, and which increase proportionately relative to the volume of soil excavated and removed to alternate locations. As Asarco has already demonstrated, the remediation risk factor alone requires use of Method C, rather than Method B under Ecology's regulations. See Section E. Because cleanup to 20 ppm will generate such a high volume of soil to be excavated and transported, the actual human health impacts from implementation of the remedy in terms of projected accidents will likely far exceed the theoretical risk from arsenic exposure. See Dr. Beck Statement in Section E. Second, as noted, the draft CAP does not identify the cost of the proposed remedy compared to alternatives. This is a critical omission which makes it impossible for Ecology to perform the "substantial and disproportionate" analysis required by WAC 1 73-340-360(5)(d)(vi).

GQ	Comment ID	Last Name
5.1.23	233	Aldrich

Comment

EIS; Section 4.10 Transportation; The failure of the draft EIS to evaluate health risks arising from the remediation and soil transport is addressed at length in Dr. Beck's Statement and in Attachment H-5. That analysis will not be repeated here. The traffic analysis in the draft EIS is insufficient to address adequately the potential impacts of this project.

GQ	Comment ID	Last Name
5.1.23	240	Aldrich

Comment

The draft EIS significantly underestimates the impacts arising from implementation of the draft CAP. The most overarching deficiency of the draft EIS is the consistent underestimation of the level of disruption within the community that will arise from implementing the draft CAP and the significant impacts, including health impacts and risk of fatalities associated with the work described in the draft CAP. There is no better example of this misrepresentation than the estimation of volumes to be excavated and backfilled (see Section 3.4). It is not clear how Ecology estimated 166,000 cubic yards from the peripheral area. Asarco does not understand why Ecology has not included recent data, particularly the boundary study performed by SAIC in 1997. Asarco believes that this data shows the area subject to soil removal and replacement would expand, resulting in a substantial increase in volume over that estimated in the draft EIS. During mediation, the Technical Work Group agreed to several assumptions regarding volume estimates, including average size of a residential yard and number of decision units that require soil removal. The estimated volumes for alternatives most similar to the draft CAP ranged from 357,000 cubic yards or 643,000 tons (Alternative B), to 243,500 cubic yards or 438,000 tons (Alternative C). Asarco acknowledges that the cleanup and remediation levels are different in the draft CAP from those identified in the Technical Work Group alternatives. However, the changes in the cleanup and remediation levels in the draft CAP do not significantly change the volume estimated during mediation. For example, reviewing the Alternatives B and C, some reduction is provided in the draft CAP with removal of soil greater than 20 ppm to 12" instead of 18"; these are off set by more stringent remediation levels at depth. Therefore, the actual volume will still likely be somewhere in between the Alternative B and C estimates. Consequently, the draft EIS estimate is significantly low. Higher volumes result in a proportionally higher cost for implementation along with greater disruption over a longer period in the neighborhoods and a greater risk of accidents. The draft EIS does not reflect these realistic, probable volume estimates. Rather, the draft EIS implies that the estimated 166,000 cubic yards will be excavated from residential neighborhoods (see Section 4.10.2.2). An average of 300 cubic yards of soil is estimated to be removed from each residence. Based on this information, it appears that Ecology has not accounted for any soil removal from commercial sites, public areas, and forested areas. Available data indicate that these areas contain arsenic concentrations greater than 20 ppm. Asarco has estimated that a total of approximately 310,000 cubic yards will be excavated from the peripheral area yards if the draft CAP is implemented. Of that, approximately 220,000 cubic yards will be excavated from about 525 residential properties and another 90,000 cubic yards of soil will be excavated from non-residential properties, including three unpaved commercial properties, the mausoleum, American Legion Park, Wiggums Hollow Park, three forested areas east of East Marine View Drive, residential right-of-ways, and the cloverleafs at the intersection of SR529 and East Marine View Drive. These volume estimates are described in Asarco's cost estimate (see Attachment H-2).

GQ	Comment ID	Last Name
5.1.23	246	Aldrich

Comment

Human health risk from arsenic exposure. The draft CAP does not identify the number of persons at risk from exposure to arsenic in soil, surface water or groundwater, nor does it include any quantitative or qualitative assessment of the cancer risk. Instead, it simply assumes that soil levels above 20 ppm create "unacceptable" risk. There is no quantitative or qualitative comparison of the risks at 20 ppm to risks at alternate cleanup levels. As a result, the draft CAP does not, and cannot, as written, provide a basis to evaluate whether the remediation will result in a net increase in human health risk. That evaluation is required under MTCA and Ecology's regulations to insure that no remedy is selected that results in such a net increase in health risk. As explained in Asarco's detailed comments on Ecology's Review of the "new science" (Section E and Statement of Dr. Beck), this draft CAP, if implemented, will increase total human health risk by a substantial margin.

GQ	Comment ID	Last Name
5.1.23	248	Aldrich

Comment

Remediation Risk; The draft CAP fails to identify or evaluate remediation risk even though materials were supplied by Asarco on that subject in its July 1998 submission. Ecology was also warned by the Science Advisory Board when Ecology promulgated its regulations in 1990 that use of overly strict cleanup levels could lead to remediation risks that exceed the postulated risk of harm from exposure to the chemicals in soil the cleanup is designed to avoid.

GQ	Comment ID	Last Name
5.1.23	249	Aldrich

Comment

Ecology's draft EIS does quantify transportation risk and concludes that 6.5 truck accidents are statistically expected from transporting estimated volumes of "contaminated" soil and replacing them with "clean" soils. However, Ecology's estimate is not accurate because use of its cleanup levels and compliance protocol will likely result in a substantially larger volume of soil being remediated. See Sections A and B. The draft EIS also fails to identify which of the expected accidents will likely result in fatalities, or serious injury, an expected potential consequence with large numbers of oversized trucks traveling long distances at highway speeds. As explained in Attachment H-3, Asarco, using Ecology's cleanup level, calculates that there is approximately a 1.2 x 10-1 risk, i.e., one in twelve, that transportation of the excavated and replacement soils will cause a fatal accident.

GQ	Comment ID	Last Name
5.1.23	250	Aldrich

Comment

Most critically, the draft CAP and draft EIS fail to compare these risks to any quantified cancer risk from exposure to contaminated soils. When that comparison is performed, it reveals that this draft CAP, if implemented, will have a strongly negative net impact on human health. See Dr. Beck Statement in Section E. Only a very few children could possibly be at risk even using Ecology's assumptions, and the postulated risk is purely theoretical. In contrast, traffic accidents are predicted with considerable statistical reliability because of data collected by government agencies monitoring traffic safety. The risk of a truck-related fatality is many orders of magnitude greater than the risk of a single case of skin cancer.

GQ	Comment ID	Last Name
5.1.23	443	Aldrich

Comment

In preparing the draft CAP, Ecology should have followed the process outlined above. However, Ecology did not utilize its own regulations and guidance available for selecting a remedy at Everett. The draft CAP contains numerous examples of this failure by Ecology, including the following: 1) Ecology defines the policies and principles that Ecology is to utilize "to ensure that cleanup standards...are established and implemented in a scientifically and technically sound manner," at WAC 173-340-702. One of these principles is that Ecology shall consider "new scientific information" when establishing cleanup levels for a site. WAC 173-340-702(6). However, in spite of this directive in its own regulation, Ecology has failed to appropriately consider any new science as the basis for selecting a remediation level for the 0 to 12 inch depth interval at the site. It also ignored the relevant scientific information in setting cleanup levels for soils below 12 inches. See Sections E and F. 2) A remedy may not be practicable if a substantial and disproportionate cost analysis demonstrates that a lower cost alternative is equally protective. However, Ecology selected a remedy without performing a comprehensive substantial and disproportionate analysis of the proposed cleanup action. In fact, there is no substantive discussion of overall cost to be found anywhere in the draft CAP. Ecology has ignored its own regulatory requirement to consider the cost of a remedy. See Section B and Attachments H-1 and H-2.

Ecology concluded that selection of a 20 ppm arsenic cleanup level is a threshold requirement that must be met in the 0 to 12 inch depth interval even if implementation of the remedy of digging and hauling all soils with concentrations of arsenic above 20 ppm would lead to a net increase in human health risk. WAC 173-340-706 allows the use of Method C cleanup levels in lieu of Method A or B when attainment of Method A or B has the potential for creating a significantly greater overall threat to human health than attainment of Method C levels. Ecology's own data demonstrates that attainment of a 20 ppm arsenic cleanup level will cause a net increase in human health risk, yet Ecology has failed to apply the flexibility its own regulation permits. See Attachment H-3.

GQ	Comment ID	Last Name
5.1.23	476	Aldrich

Comment

8. The new human health risks introduced by excavating and moving in excess of 166,000 cubic yards of soil far exceed the theoretical cancer risk from exposure to the Everett soils.

b. As the Science Advisory Board warned Ecology about its regulations in 1990, as cleanup levels drop to extraordinarily low levels, such as to protect against an assumed one-in-a-million excess cancer risk, the volume of soil that must be removed and replaced with "clean" soil to achieve that level of "protection" increases exponentially. This raises not just cost, but also the human health risk from the remediation itself and from the transportation and replacement of the excavated soils.

GQ	Comment ID	Last Name
5.1.23	477	Aldrich

Comment

Ecology admits only part of this risk, a projected 6.5 truck accidents. Draft EIS at A-4-49. The question of how many of these accidents will be fatalities is not addressed. Moreover, the actual risk is substantially underestimated because, as demonstrated in the comments on the draft CAP, Ecology's estimates of the volumes of soil that will be remediated under its draft CAP are much higher than it estimated. Regardless of actual volume, Ecology does not compare the remediation and transportation risks to the purported reduction in cancer risk achieved by the cleanup. That risk is minuscule because there are clearly very few, if any, children who consume 200 mg of soil every day from a contaminated source in Everett.

To illustrate the point, assume that there are 10 children in Everett who consume that much soil 365 days/year for six years. Assume that arsenic in soil is 100% bioavailable, that Ecology's risk calculation is correct, and that soils are remediated so as to leave an average of 67 ppm in the soils, rather than 20 ppm. Since Ecology's 10-6 cleanup level is 0.67 ppm, each child would face a theoretical 10-4 risk over their lifetimes, or one-in-ten thousand and the entire population would face a risk of 1 in 1000. This exposed group of children would have to turn over and be replaced with new children 1000 times in succession before one would expect a single case of skin cancer in any of their lifetimes. Reduction of the cleanup level to 20 ppm would reduce the risk to slightly less than one in every 3000 generations of exposure. In contrast, at the 20 ppm cleanup level, Ecology projects 6.5 accidents involving trucks in three years. (And, of course, the actual cancer risk among this population is most likely zero for all the reasons discussed above.)

GQ	Comment ID	Last Name
5.1.23	478	Aldrich

Comment

Similarly, Ecology ignores the risk of fatal truck accidents. Data published in Ecology's Environmental Impact Statement on its MTCA regulations, when applied to the volumes and distances involved here, will create a risk of a traffic fatality of about 1 x 10-1, many times higher than the cancer risk theoretically avoided. See Dr. Beck Statement.

GQ	Comment ID	Last Name
5.1.23	479	Aldrich

Comment

Moreover, the draft EIS ignores the risk of the on-site remediation itself, excavation and replacement of approximately 180,000 cubic yards of soil in a residential neighborhood where small children live. The risk to remediation workers alone is approximately 1.7 x 10-3, which exceeds the theoretical cancer risk. See Dr. Beck Statement. They are not theoretical or based on a hypothetical computer model. They are based on statistics from actual accidents. There is no existing database to evaluate the remediation risk to children at Everett, but it cannot simply be ignored. There can be no doubt that the net effect of this plan, if implemented, will be to cause more harm than it prevents.

GQ	Comment ID	Last Name
5.1.24	240	Aldrich

Comment

The draft EIS significantly underestimates the impacts arising from implementation of the draft CAP. The most overarching deficiency of the draft EIS is the consistent underestimation of the level of disruption within the community that will arise from implementing the draft CAP and the significant impacts, including health impacts and risk of fatalities associated with the work described in the draft CAP. There is no better example of this misrepresentation than the estimation of volumes to be excavated and backfilled (see Section 3.4). It is not clear how Ecology estimated 166,000 cubic yards from the peripheral area. Asarco does not understand why Ecology has not included recent data, particularly the boundary study performed by SAIC in 1997. Asarco believes that this data shows the area subject to soil removal and replacement would expand, resulting in a substantial increase in volume over that estimated in the draft EIS. During mediation, the Technical Work Group agreed to several assumptions regarding volume estimates, including average size of a residential yard and number of decision units that require soil removal. The estimated volumes for alternatives most similar to the draft CAP ranged from 357,000 cubic yards or 643,000 tons (Alternative B), to 243,500 cubic yards or 438,000 tons (Alternative C). Asarco acknowledges that the cleanup and remediation levels are different in the draft CAP from those identified in the Technical Work Group alternatives. However, the changes in the cleanup and remediation levels in the draft CAP do not significantly change the volume estimated during mediation. For example, reviewing the Alternatives B and C, some reduction is provided in the draft CAP with removal of soil greater than 20 ppm to 12" instead of 18"; these are off set by more stringent remediation levels at depth. Therefore, the actual volume will still likely be somewhere in between the Alternative B and C estimates. Consequently, the draft EIS estimate is significantly low. Higher volumes result in a proportionally higher cost for implementation along with greater disruption over a longer period in the neighborhoods and a greater risk of accidents. The draft EIS does not reflect these realistic, probable volume estimates. Rather, the draft EIS implies that the estimated 166,000 cubic yards will be excavated from residential neighborhoods (see Section 4.10.2.2). An average of 300 cubic yards of soil is estimated to be removed from each residence. Based on this information, it appears that Ecology has not accounted for any soil removal from commercial sites, public areas, and forested areas. Available data indicate that these areas contain arsenic concentrations greater than 20 ppm. Asarco has estimated that a total of approximately 310,000 cubic yards will be excavated from the peripheral area yards if the draft CAP is implemented. Of that, approximately 220,000 cubic yards will be excavated from about 525 residential properties and another 90,000 cubic yards of soil will be excavated from non-residential properties, including three unpaved commercial properties, the mausoleum, American Legion Park, Wiggums Hollow Park, three forested areas east of East Marine View Drive, residential right-of-ways, and the cloverleafs at the intersection of SR529 and East Marine View Drive. These volume estimates are described in Asarco's cost estimate (see Attachment H-2).

GQ	Comment ID	Last Name
5.1.24	241	Aldrich

Comment

In addition to the gross underestimation of volume, Asarco questions the practicability of a three year schedule. As noted, Asarco believes that Ecology has significantly underestimated the volume required to be removed which, in turn affects the schedule. The actual, foreseeable volume to be removed may be up to twice that estimated in the draft EIS. Even using the volume estimates from the draft EIS, Asarco believes that Ecology is overly optimistic in proposing the removal of approximately 55,000 cubic yards per year. Asarco believes that attempting to establish 5 separate work areas will significantly disrupt the community throughout the duration of the work. In addition, safety risks greatly increase for workers as well as the public and unit costs substantially increase as a result of increased labor and equipment requirements. It also appears that Ecology has not accounted for any potential complications associated with this type of work. It is Asarco's experience that there will be a high likelihood of complications or decrease in productivity due to the following: Lack of accessibility to some properties; Delays associated with homeowner preparation or requested changes; More hand work or need for smaller equipment than anticipated (e.g., work around utilities or structures); and, Dealing with unknown conditions such as private utilities or septic tanks.

GQ	Comment ID	Last Name
5.1.24	242	Aldrich

Comment

Finally, it appears that other draft CAP requirements have not been addressed which will affect the schedule. These other requirements include: Moving non-permanent structures; Replacing decks; Securing maintenance areas; Thoroughly cleaning the houses post-remediation; Placing fabric barriers at the 12-inch depth; and, Replacing streets, sidewalks, driveways, steps, and patios that do not comply with ASTM standards.

GQ	Comment ID	Last Name
5.1.24	243	Aldrich

Comment

EIS; The combined results of these misrepresentations is that the cost and day-to-day impacts for implementation of the draft CAP will be at least 1.5 to 2 times greater than presented in the draft CAP. This outcome is directly attributable to the provisions of the draft CAP and is based on Asarco's experience and information that has been available to Ecology for some time. The draft EIS is fundamentally deficient by not reflecting these foreseeable, probable consequences of the draft CAP. In particular, the document makes no quantitative or qualitative assessment of the risk of adverse public health impacts from the remediation itself, compared to health effects avoided from exposure to arsenic and lead in the concentrations and locations found.

GQ	Comment ID	Last Name
5.1.24	377	Glass

Comment

See EIS section 4.10, Transportation: The CAP does not provide a firm implementation schedule for cleanup actions. ASARCO's willingness to perform cleanup actions, the status of litigation, and alternative funding available to Ecology to pursue cleanup actions itself are all understood to affect potential cleanup action schedules. The EIS makes an assumption that peripheral properties are remediated in three years, at a rate of about 200 properties per year, as a basis for assessing and comparing traffic impacts. (The summary on page 67 of the CAP, however, comments on a three to five year schedule, with a May to October construction period annually). I note that this rate of about 200 properties remediated per year is substantially higher than at Ruston/North Tacoma. Alternative rates for performing cleanup actions will affect some anticipated traffic impacts (magnitude and duration). Ecology may want to contact community residents for comments on the number of properties to be remediated per year; this may be a parameter for which a range of durations would be acceptable. I understand that the EIS assumption supports the analyses in the EIS but does not reflect a decision within the CAP on the schedule for property remediation. Transportation impacts are also addressed as part of Ecology's response to ASARCO's "new science" submittal. Additional factors relevant to the analysis of transportation impacts and risks, beyond those discussed in the EIS section 4.10, are identified and discussed there. Ecology should consider incorporating such additional assessments into the EIS.

GQ	Comment ID	Last Name
5.1.25	275	Taylor

Comment

Noise impacts, caused primarily by increased truck traffic and heavy equipment, would be significant under both alternatives, although likely last a shorter amount of time under Consolidation because of less soil removal and replacement. Again, the positive benefits of a permanent solution with Off-Site Disposal outweigh the negative impacts.

GQ	Comment ID	Last Name
5.1.26	399	Glass

Comment

See EIS page A4-51: delete reference to California.

GQ	Comment ID	Last Name
5.1.27	234	Aldrich

Comment

EIS; Section 4.12 Public Services and Facilities The affected environment section is lacking in detail. It seems that a number of public services/facilities could be impacted by this project. These services should be detailed. The impact analysis should be more specific. There needs to be a link between the proposed alternatives and the services/facilities to be impacted. For example, the document states that temporary revisions to traffic signals would be required. What public service would be impacted? Would it be the city? This comment is applicable throughout this section. The statement that there are no mitigating measures is difficult to accept. Does that mean that all of the impacts are significant and unavoidable under all alternatives? It seems that some impacts could actually be mitigated.

GQ	Comment ID	Last Name
5.1.28	235	Aldrich

Comment

EIS; Section 4.13 Maintenance; It is unclear how this section fits into the draft EIS. There appears to be design mitigations that are included or should be included in the different alternatives.

GQ	Comment ID	Last Name
5.1.29	236	Aldrich

Comment

EIS; Section 4.14 Other Governmental Services or Utilities; This section should be incorporated into other relevant sections and should not be separate from Section 4.12. In addition, some of the information included in Section 4.14.2.2 is more relevant to Section 4.5 (Environmental Health).

GQ	Comment ID	Last Name
5.1.30	364	Soine

Comment

DEIS 4.14.2.1 (pages A4-58, 59) Impacts and mitigation on City of Everett. Additional impacts of institutional controls and permit overlay may include additional equipment and software. Also, there are impacts in the areas of worker protection equipment and training; the need for on-going testing and sampling; the need for long-term record management; and addressing liability issues related to these items.

GQ	Comment ID	Last Name
5.2.1	7	Ryan

Comment

Finally in regard to the ultimate use of the fenced area as driven by cleanup characteristics and discussed in the EIS the community interests lie clearly on the side of restoring the property to its original use as single family housing. Of course this would require a much more stringent cleanup of the fenced area than is currently proposed with little opportunity for increased soil consolidation which changes the grade and eliminates access. Multi-family use may provide slightly better control of recontamination than single family as proposed in the EIS but it is still residential usage with contamination of 3000 ppm below in depths where water mains would have to be installed and maintained. Our feeling is that the community would best be served by removal of the greatest amount possible and consolidation of the least contaminated peripheral soils.

GQ	Comment ID	Last Name
5.2.1	10	Robison

Comment

We in the community have been opposed from the first to an on-site containment facility, but I personally can support a consolidation of contaminated soils from the peripheral area that do not exceed 3000 ppm arsenic. (We interpret 3000 as a firm number, and need to be informed if there is any flexibility about it.) This consolidation would be within the fenced area and would be capped by a protective cover. I believe this is the way to go in view of the tremendous cost of removing such soil from the area.

GQ	Comment ID	Last Name
5.2.1	27	Robison

Comment

From the beginning the citizens have wanted their neighborhood restored to its single family status. It would be preferable to have the fenced area cleaned up enough to support at least some kind of residential use, such as condos. If that cannot be done we prefer not to have a fence, but instead to have those six acres covered with lawn that it keeps up.

GQ	Comment ID	Last Name
5.2.1	41	White

Comment

The DCAP and DEIS fail to consider the option of maintaining the Smelter site itself (referred to as the Former Arsenic Trioxide Processing Area) in the use for which it is zoned and which is provided for by the City's Growth Management Comprehensive Plan Land Use Map for the surrounding area, namely single family residential. The land has been in single family residential use for over 60 years. It is zoned for single family residential use. The surrounding area is designated single family residential in the Comprehensive Plan. Despite these facts, single family use is not even looked at as an option. We fail to understand the basis for this decision by Ecology, for which no explanation is provided. It is true that alternative land uses were considered during discussions held as part of the Mediation Process. However, the context of this discussion is such that they are irrelevant to the DCAP and DEIS.

GQ	Comment ID	Last Name
5.2.1	153	Aldrich

Comment

Section 6.2.1.1 Development of the Soil Removal and Containment Remedy. pages 72-84; Ecology has failed to consider practicability in selection of their cleanup action and has presented no substantial and disproportionate analysis for the range of viable remedial alternatives. The draft CAP provides no evaluation of cleanup action costs and has selected a remedy that is impracticable under MTCA. The draft CAP justifies its lack of analysis with the statement "..in selecting the Consolidation Facility alternative, the department has already given great consideration to cost by selecting cleanup options which are among the least permanent of the available cleanup technologies." However, an actual evaluation of costs demonstrates that the Consolidation Facility has a minimum effect on the overall cost of the remedy of less than $4 million in a total remedy cost of approximately $96 million and is not relevant to a substantial and disproportionate analysis at all. See Attachments H-1 and H-2.

GQ	Comment ID	Last Name
5.2.1	254	Reninger

Comment

Snohomish County is supportive of the Consolidation Alternative being prepared by DOE. The Consolidation alternative appears to be well thought out and considers balancing both protective measures to the community with the realities of actual cleanup work and the associated costs. Based upon the county's participation in the Mediation Process, we recognize that Ecology has given careful consideration to all of the issues that were addressed in that process.

GQ	Comment ID	Last Name
5.2.1	263	Taylor

Comment

This draft document represents the future of a residential neighborhood in Northeast Everett. The proposed cleanup actions will NOT "protect current and future generations from potential threats to human health and the environment" as stated by Stephen Alexander, DOE Toxics Cleanup Program, January 26, 1999.

GQ	Comment ID	Last Name
5.2.1	264	Taylor

Comment

Ecology has proposed the selection of Alternative D, Consolidation, which includes off-site disposal of only the most contaminated soils and the construction of a Consolidation Facility on the Former Arsenic Trioxide Processing Area (FATPA) to accommodate large volumes of less, yet still highly, contaminated soils, up to 3000 mg/kg or 150 TIMES the cleanup level of 20 mg/kg established for arsenic in accordance with Model Toxics Control Act regulations. THE ALTERNATIVE PROPOSED BY ECOLOGY IS UNACCEPTABLE. Consider the short-term and long-term impacts, as outlined in the DEIS, of Alternative B, Off-Site. Disposal, in comparison to those of the Alternative D, Consolidation, as recommended by Ecology, on each of the areas studied.

GQ	Comment ID	Last Name
5.2.1	265	Taylor

Comment

Topographic impacts would be significant with Consolidation including a change in grade of "approximately 4 feet above the existing grade" causing "impeded" views from nearby residences.

GQ	Comment ID	Last Name
5.2.1	266	Taylor

Comment

(According to the EIS) Impacts from truck and equipment emissions "would be similar" for both alternatives and "would not exceed the annual major source thresholds" and would not be considered significant. The level of contaminated "fugitive dust emissions" would also be similar for both alternatives and "may represent the greatest health impact to the public." However, Off-Site Disposal, would eliminate this health risk for future generations, while Consolidation would still present the potential for future contaminated dust emissions.

GQ	Comment ID	Last Name
5.2.1	267	Taylor

Comment

Surface Water Short-term effects would be similar for both alternatives. The long-term effect of Off-Site Disposal is expected to result in a decrease of contaminant transport to the storm water system, the lowland area, and the Snohomish River. While Consolidation is expected to have the same effect, the possibility exists for "negative impacts to the surface water should the impermeable cap ever fail." Off-Site Disposal eliminates this future potentiality.

GQ	Comment ID	Last Name
5.2.1	268	Taylor

Comment

Groundwater; Short-term impacts would likely be insignificant for both alternatives (B&D). The long-term effect of Off-Site Disposal "would significantly reduce the potential for future leaching and infiltration of contaminants to water-bearing zones." Although expected to "decrease any movement of site-related contaminants to the groundwater," with Consolidation, the potential exists for "negative impacts to groundwater should the impermeable cap ever fail."

GQ	Comment ID	Last Name
5.2.1	269	Taylor

Comment

Environmental Health "Short-term risks to construction workers involved in excavation and transport of contaminated soil could occur," with both alternatives, but "be minimized" through protective measures. Off-Site Disposal would significantly reduce "future risks to community residents" and workers because "accessible contaminated soil" would have been removed. Long-term protection could not be guaranteed under Consolidation "if failure of the cap were to occur." The "most sensitive subpopulations (i.e., a chemically-sensitive child who ingests a large amount of contaminated soil after breach of containment) may not be fully protected."

GQ	Comment ID	Last Name
5.2.1	270	Taylor

Comment

Land Use The Off-Site Disposal Alternative "would have a beneficial impact on existing land use conditions." The Former Arsenic Trioxide Processing Area would be "suitable for any land use, including residential." Existing land use restrictions would also be removed from the Peripheral Area "representing significant improvements in land use conditions." Under the Consolidation Alternative, the Former Arsenic Trioxide Processing Area "could probably not be developed for single-family residences." For other land uses, "adequate institutional controls" would have to be assured.

GQ	Comment ID	Last Name
5.2.1	271	Taylor

Comment

Housing "The site could be developed for residential use (single-family or multi-family) following remediation" under the Off-Site Disposal Alternative. This would have a beneficial impact on the Everett housing supply, especially with housing in demand by the nearby Navy Home Port, and restore the neighborhood to its earlier ambiance. This alternative "would be expected to result in increased property values" in the immediate vicinity as compared with current conditions. "Multi-family residential use" could only exist under Consolidation "if adequate institutional controls could be assured." However, an increase in property values "would probably be less than for the Off-Site Disposal Alternative, because contaminated soil would be left on-site." It should be considered that under this alternative, because of the notoriety of the site, property in the area may never regain its expected value.

GQ	Comment ID	Last Name
5.2.1	272	Taylor

Comment

Aesthetics, Light and Glare Short-term aesthetic, light and glare impacts would be similar for both alternatives (B& & D). The long-term aesthetic impact after the implementation of Off-Site Disposal would be extremely positive. The neighborhood would retain its breathtaking views, regain its viability, and lose the negative stigma it has endured these past eight years. As waste would remain on-site under Consolidation, redevelopment may not occur as quickly as would be hoped. The "increased elevation would change the nature of the existing views" and may also "impede the territorial views."

GQ	Comment ID	Last Name
5.2.1	273	Taylor

Comment

Parks and Recreation The impacts to the three parks associated with both alternatives (B & D) would be "identical." If cleaned up under the Off-Site Disposal Alternative, the Former Arsenic Trioxide Processing Area should be considered for use as a park facility. This was the remediated use originally promised to the residents who sacrificed their homes. The park could be publicly or privately funded. The option of designating the site for park land is highly unlikely under the Consolidation Alternative because of liability issues with the contamination left on-site.

GQ	Comment ID	Last Name
5.2.1	274	Taylor

Comment

Although significantly more truck and/or rail trips would be required to satisfy Off-Site Disposal than Consolidation, the benefits of this temporary inconvenience would be greatly outweighed by the permanent solution afforded the neighborhood. The residents of the Everett Smelter Site have patiently waited, amid continued assurances of an eminent cleanup, for the past eight years; a few more months is not going to matter.

GQ	Comment ID	Last Name
5.2.1	275	Taylor

Comment

Noise impacts, caused primarily by increased truck traffic and heavy equipment, would be significant under both alternatives, although likely last a shorter amount of time under Consolidation because of less soil removal and replacement. Again, the positive benefits of a permanent solution with Off-Site Disposal outweigh the negative impacts.

GQ	Comment ID	Last Name
5.2.1	276	Taylor

Comment

Public Services and Facilities Necessary public services would increase during remediation under both alternatives. Implementation of the Off-Site Alternative would have less long-term impact on public services than Consolidation because institutional controls would not be necessary. The City of Everett's tax revenues would be positively impacted by an increase in property values due to a complete cleanup with Off-Site Disposal and negatively impacted by a decrease in property values under Consolidation due to the stigma and fear associated with the toxic contamination left on-site. Public Services and Facilities Necessary public services would increase during remediation under both alternatives. Implementation of the Off-Site Alternative would have less long-term impact on public services than Consolidation because institutional controls would not be necessary. The City of Everett's tax revenues would be positively impacted by an increase in property values due to a complete cleanup with Off-Site Disposal and negatively impacted by a decrease in property values under Consolidation due to the stigma and fear associated with the toxic contamination left on-site.

GQ	Comment ID	Last Name
5.2.1	277	Taylor

Comment

Maintenance With the Off-Site Disposal Alternative, there would be no need for continued maintenance of the soil cover or fencing that now exists. The system designed under the Consolidation Alternative "would require routine inspection and maintenance" for perpetuity, the responsibility of Asarco or Ecology. A breech of this responsibility, which could occur sometime in the future due to a number of factors including bankruptcy or elimination, would put future generations in jeopardy of reliving our neighborhood's nightmare.

GQ	Comment ID	Last Name
5.2.1	278	Taylor

Comment

Consolidation would require the implementation of a long list of very expensive institutional controls which would be administered by the City of Everett, the Snohomish Health District, and the Department of Ecology. These controls could potentially be in effect and be financially draining for hundreds of years. And, if no longer funded sometime in the future, recontamination could occur. Is this the legacy we want to leave to our children? Off-Site Disposal would virtually eliminate these costly measures because all of the contamination would be gone.

GQ	Comment ID	Last Name
5.2.1	279	Taylor

Comment

Public participation is supposed to be an integral part of this process. Yet the comments that were received during the public comment period, stated on page 56 of the Ecology's document, overwhelmingly "made it clear that the public was opposed to the construction of a consolidation facility with the proposed grade changes. In addition, the public opposed leaving highly contaminated soils and other smelter residuals within the residential neighborhood." These comments, from those who have suffered physical, psychological, emotional, and financial injuries, and who stand to lose the most if a "complete" cleanup in not implemented, have seemingly been ignored. Ignored in favor of industry giant, Asarco, who operates smelters around the world, polluting the air and soil of those who cannot fight back while realizing tremendous profits. Why should we, as innocent victims, be punished for a crime someone else committed? Often, it doesn't seem Ecology is on the side of those it represents.

GQ	Comment ID	Last Name
5.2.1	280	Taylor

Comment

We are assuming that a Cost-Benefit analysis has been calculated, comparing the current and future costs of Ecology's (or Asarco's) alternative, Consolidation, to the people's preferred alternative, Off-Site Disposal. What may represent the best alternative for short-term cost savings, may not be representative of long-term cost savings. Please answer the following questions: Was the analysis calculated using the "worth" method or the "direct expenditures/opportunity cost" approach? What period of comparison was used? 10 years? 100 years? 1000 years? Were negative effects counted as lost benefits? Did you take into consideration the possibility of system failure? What was the result? It is difficult to believe that the Off-Site Disposal Alternative, which would incur a one-time initial cost, would be more expensive than the Consolidation Alternative which includes, but may not be limited to, the following extremely intrusive, stigma-inducing, labor-intensive institutional controls: Deed Covenants, Permit Overlay, Database and Web Page Worker Protection Program, Small Quantity Soil Disposal Program, Large Project Soil Disposal and Management Program, Public Education Program, Exposure Testing Program, Environmental Investigations, Effectiveness Evaluation, Citizen's Advisory Committee Program, Dispute Resolution Program, Contingency Plans, Financial Assurances.

GQ	Comment ID	Last Name
5.2.1	287	Valeriano

Comment

While we applaud Ecology in taking this next step in developing a cleanup plan, we are concerned that it does not meet some of the requirements in MTCA. According to MTCA, a cleanup must be permanent to the maximum extent practicable and this is really what the Northeast Everett community deserves. This cleanup action plan falls far short of permanent. It leaves a substantial amount of contamination for the community to live with and relies too heavily on institutional controls.

GQ	Comment ID	Last Name
5.2.1	290	Valeriano

Comment

It is also of great concern to us that contaminated soils will be piled up in the smelter area in the community and then be capped and graded. We do support the removal of the highly contaminated soils, but believe that more of the soils should be removed or treated because it is in the middle of a residential community. The Department has gone as far as to say that the all soils in the peripheral areas, whether commercial or residential will be treated the same, but then the community is left with a significant amount of contamination in the smelter area that prevents the restoration of single family residences. We do not believe it is appropriate for Ecology to implement a cleanup that will prevent a community from restoring the land-use to single family residential.

GQ	Comment ID	Last Name
5.2.1	368	Glass

Comment

There is an apparent tradeoff between practicability issues in selecting MTCA cleanup actions and restoration of single-family residential land use that existed prior to site discovery. The CAP and EIS should discuss in more detail how this tradeoff is considered in making practicability decisions on cleanup actions.

GQ	Comment ID	Last Name
5.2.1	369	Glass

Comment

Can community restoration, as well as degree of protectiveness, be considered as a benefit in the cost-benefit analyses of practicability? If not, does this set an unfortunate precedent that the purchase of contaminated property by a PLP can result in less complete site cleanup and restricted land uses, regardless of the community setting in which the property purchase occurs?

GQ	Comment ID	Last Name
5.2.1	440	Aldrich

Comment

Ecology did not follow its owns regulations and guidance in developing the Cleanup Action Plan. The MTCA regulation, and guidance documents prepared by Ecology interpreting it, establish a process for investigating a site and selecting a remedy if it is determined that there is a threat to human health or the environment from the presence of a hazardous substance at the site. In selecting a remedy, there are several factors that Ecology is directed to consider. In preparing the draft CAP containing the proposed remedy for Everett, Ecology has ignored these factors in direct contravention of its own regulation. Its entire analysis is premised on an assumption that 20 ppm as a cleanup and removal level is a "threshold" requirement that must be met regardless of cost, scientific validity, and whether or not it results in a net benefit to protecting human health. In fact, the threshold requirement of protecting human health and the environment can be met at a remediation and removal level well above 20 ppm arsenic.

GQ	Comment ID	Last Name
5.2.1	441	Aldrich

Comment

Once a potential "site" is discovered, a remedial investigation/feasibility study (RI/FS) is performed, Ecology evaluates the RI/FS, establishes cleanup levels, or remediation levels where appropriate, selects cleanup standards in accordance with the procedures in WAC 173-340-700 through -760, and selects a cleanup action or remedy that protects human health and the environment and that will meet the other requirements of WAC 173-340-360. WAC 173-340-120(4)(b). The regulation provides flexibility as well as opportunities, and in some cases requirements, to consider site-specific information. The final cleanup action that is selected may consist of several cleanup technologies, including, for example, on-site containment, soil removal, and institutional controls, that are triggered by the cleanup levels and remediation levels. WAC 173-340-700(2) - (4).

Once a cleanup level is selected (20 ppm arsenic in the draft CAP), the next step is the determination of the cleanup standard. Establishing cleanup standards for a site requires selection of the cleanup level ("hazardous substance concentrations that protect human health and the environment"), or remediation levels, points of compliance ("locations on the site where those cleanup levels must be met"), and any additional regulatory requirements that may apply at the site because of the type of action to be taken and/or the location of the site ("ARARs"). WAC 173-340-700(2)(a). One of these additional regulatory requirements is found in the soil cleanup standards section, WAC 173-340-740(1)(a): "In the event of a release of a hazardous substance, treatment, removal, and/or containment measures shall be implemented for those soils with hazardous substance concentrations which exceed soil cleanup levels based on this [residential] use... ." Ecology, however, has ignored that other provisions of MTCA, Part VII - Cleanup Standards not only qualify this sentence but establish equally applicable requirements that must be followed in setting the cleanup standard and selecting the appropriate cleanup action. WAC 173-340-700(2)(a) sets the stage for determining how, for example, the soil cleanup standards section, WAC 173-340-740(1)(a), should be used.

This part provides uniform methods state-wide for identifying cleanup standards and requires that all cleanups under the Act meet these standards. The actual degree of cleanup may vary from site to site and will be determined by the cleanup action alternative selected under WAC 173-340-360. (Emphasis added.)

Thus, although the cleanup standards provisions prescribe rules of general applicability, they are not absolutes. Instead, they are subject to site-specific factors and the cleanup action selection process. Further, WAC 173-340-700(7)(a) states that Part VII "shall be used in combination with" Section 360 - selection of cleanup actions. Although Method A may be used to establish cleanup levels, the regulations state, "Exceedances of the values in these tables do not necessarily trigger requirements for cleanup action under this chapter." WAC 173-340-704(4). Other provisions in Part VII establish "additional regulatory requirements" that go into the setting of the cleanup standard: 1) At most sites, several cleanup technologies or combinations of cleanup technologies may be used to comply with cleanup standards (WAC 173-340-700(2)(b)). It is appropriate to consider a representative range of technologies, as well as different combinations of technologies, "to accomplish the overall site cleanup." (WAC 173-340-700(7)(g)). 2) Other parts of this rule govern the process for planning and deciding on the cleanup action to be taken - requiring the identification of cleanup action alternatives in the FS and that WAC 173-340-360 specifies the criteria for selecting the preferred alternative. (WAC 173-340-700(2)(b)). 3) While cost is not a factor in determining the cleanup level, it may be appropriate for certain determinations related to cleanup standards and shall be considered when selecting an appropriate cleanup action. (WAC 173-340-700(7)(f)). 4) A remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action as long as certain conditions are met (WAC 173-340-700(7)(i)). 5) Institutional controls shall be required whenever a cleanup action results in residual concentrations of hazardous substances which exceed methods A or B cleanup levels. (WAC 173-340-702(4)).

Thus, while WAC 173-340-740(1)(a), regarding cleanup standards for residential areas, is a requirement, it is conditioned by site-specific factors, other portions of Part VII, and WAC 173-340-360, the selection of cleanup actions provision. It is also part of a regulatory process. WAC 173-340-740(1)(a) does not "trump" other provisions of the regulation - particularly WAC 173-340-360. Indeed, the regulations require that Section 700, the remainder of Part VII and WAC 173-340-360 "shall be used in combination." WAC 173-340-700(7)(a).

WAC 173-340-360 sets forth the requirements for selecting cleanup actions. It is a comprehensive section. It specifies the criteria for approving cleanup actions, the order of preference for cleanup technologies, policies for permanent solutions, the application of these criteria to particular situations, and the process for making these decisions. This section is intended to be used in conjunction with the cleanup standards defined in WAC 173-340-700 through 173-340-760 and the administrative principles for the overall cleanup process (WAC 173-340-130). (WAC 173-340-360(1)). (Emphasis added.)

Pursuant to WAC 173-340-360, cleanup actions must: protect human health and the environment; comply with cleanup standards; comply with applicable state and federal laws; provide for compliance monitoring; use permanent solutions to the maximum extent practicable; provide for a reasonable restoration time frame; and, consider public concerns.

WAC 173-340-740(1)(a) is part of the cleanup standard requirement; however, it is subject to modification on a site-specific basis both as a result of the language in Part VII itself (as outlined above) and by WAC 173-340-360. In particular, the use of "permanent solutions" such as treatment and removal, while a preference in this rule, "may not be practicable for all sites" and is limited to "permanent solutions to the maximum extent practicable." Seven criteria are used to determine "permanent to the maximum extent practicable": overall protectiveness; long-term effectiveness; short-term effectiveness; permanent reduction of toxicity, mobility and volume of the hazardous substance; implementability; the degree to which community concerns are addressed; and, cleanup cost. These are not a hierarchy, but merely criteria to be considered in determining whether a remedy is permanent. Specifically, "a cleanup action shall not be considered practicable if the incremental cost of the cleanup action is substantial and disproportionate to the incremental degree of protection it would achieve over a lower preference cleanup action." The requirement in WAC 173-340-740(1)(a) is, therefore, subject to the site-specific criteria established in WAC 173-340-360(5), including the cleanup cost test.

Reading Part VII and Section 360 "in combination" and "in conjunction," it is evident that the regulations allow flexibility on a site-specific

basis for selecting a range of cleanup actions and technologies for varying levels of arsenic concentrations, in this case, above the selected cleanup level. Assuming that all of the criteria in WAC 173-340-360(5) are met, as well as the rest of WAC 173-340-360, the MTCA regulations would allow soil removal to be triggered by a level higher than the cleanup level (i.e., a remediation level), and would allow for the use of other cleanup technologies from WAC 173-340-360(4) for remaining soils above the cleanup level. This conclusion is supported not only by the language of Section 360 but also by the provisions in Part VII referenced above, including those that specify that a combination of technologies may be used and that a remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action.

GQ	Comment ID	Last Name
5.2.1	443	Aldrich

Comment

In preparing the draft CAP, Ecology should have followed the process outlined above. However, Ecology did not utilize its own regulations and guidance available for selecting a remedy at Everett. The draft CAP contains numerous examples of this failure by Ecology, including the following: 1) Ecology defines the policies and principles that Ecology is to utilize "to ensure that cleanup standards...are established and implemented in a scientifically and technically sound manner," at WAC 173-340-702. One of these principles is that Ecology shall consider "new scientific information" when establishing cleanup levels for a site. WAC 173-340-702(6). However, in spite of this directive in its own regulation, Ecology has failed to appropriately consider any new science as the basis for selecting a remediation level for the 0 to 12 inch depth interval at the site. It also ignored the relevant scientific information in setting cleanup levels for soils below 12 inches. See Sections E and F. 2) A remedy may not be practicable if a substantial and disproportionate cost analysis demonstrates that a lower cost alternative is equally protective. However, Ecology selected a remedy without performing a comprehensive substantial and disproportionate analysis of the proposed cleanup action. In fact, there is no substantive discussion of overall cost to be found anywhere in the draft CAP. Ecology has ignored its own regulatory requirement to consider the cost of a remedy. See Section B and Attachments H-1 and H-2.
Ecology concluded that selection of a 20 ppm arsenic cleanup level is a threshold requirement that must be met in the 0 to 12 inch depth interval even if implementation of the remedy of digging and hauling all soils with concentrations of arsenic above 20 ppm would lead to a net increase in human health risk. WAC 173-340-706 allows the use of Method C cleanup levels in lieu of Method A or B when attainment of Method A or B has the potential for creating a significantly greater overall threat to human health than attainment of Method C levels. Ecology's own data demonstrates that attainment of a 20 ppm arsenic cleanup level will cause a net increase in human health risk, yet Ecology has failed to apply the flexibility its own regulation permits. See Attachment H-3.

GQ	Comment ID	Last Name
5.2.2	9	Robison

Comment

I believe Ecology is correct in holding to the 20 ppm arsenic at the surface and the other levels specified further down. The idea of relaxing that standard is very risky, because of the higher levels of toxins that could be brought to the surface years ahead with normal soil disturbance activities. It would be possible over time to seriously recontaminated the area. Then who would be responsible and who would pay for remediation, if any were to be done? We want the job done right and we want it to last.

GQ	Comment ID	Last Name
5.2.2	28	Robison

Comment

Regarding the 500 ppm maximum figure in the peripheral area, would it be much more expensive to make that figure 300? This needs to be quantified.

GQ	Comment ID	Last Name
5.2.2	46	Aldrich

Comment

The cost of proposed actions relative to benefit to the environment and community were not appropriately considered.

GQ	Comment ID	Last Name
5.2.2	47	Aldrich

Comment

Section 1.3 Applicability, p 4; This section introduces the concept of "remediation levels" which are protective of human health even though they do not equate to MTCA numerical "cleanup levels." This is a useful concept; unfortunately, Ecology has determined that this concept cannot be used in the upper 12 inches of soils even when a remediation level above 20 ppm for arsenic can be demonstrated to be protective of human health and the environment. Remediation levels should be selected for all remediation depth levels.

GQ	Comment ID	Last Name
5.2.2	54	Aldrich

Comment

Section 2.5 Feasibility Study, p. 22-24; Ecology's description of the Feasibility Study is misleading and incomplete. Most importantly, the FS did not merely conclude that an action level between 76 and 100 ppm was more cost effective, but rather that use of a 20 ppm cleanup level would violate Ecology regulations because the cost is clearly disproportionate to the benefit. See WAC 173-340-360(5)(d)(vi).

GQ	Comment ID	Last Name
5.2.2	112	Ryan

Comment

The remediation levels are generally acceptable. However, the actual figures should be set by the State Department of Health figures as well as a cost/benefit analysis. I believe 500 ppm may be high to leave in areas near 24" from the health considerations of arsenic levels of that magnitude. Can a lower figure (150 ppm x 2 = 300 ppm) be used without significantly increasing soil to be removed? What is your estimate of differences in cubic yards and costs between 300 and 500 max?

GQ	Comment ID	Last Name
5.2.2	130	Aldrich

Comment

Section 3.1 MTCA Requirements p. 31-34; The discussion of MTCA regulatory requirements is both inaccurate and incomplete. Significant omissions include: failure to note that Ecology must consider new scientific information when setting cleanup levels, WAC 173-340-703(6) and should consult with EPA and SAB when appropriate; failure to note that Ecology should use Method C when human health impacts from using Method A or B cleanup levels will result in significantly greater threats to human health; failure to note that Ecology is in breach of the statutory and regulatory command to update its cleanup standards no less frequently than every five years; and failure to note that Ecology should not approve cleanups where the cost is substantial and disproportionate to the incremental degree of protection achieved. WAC 173-340-360(d)(vi).

GQ	Comment ID	Last Name
5.2.2	131	Aldrich

Comment

Section 3.1 MTCA Requirements; A more detailed analysis of cleanup costs should be included in this discussion because consideration of the cost of cleanup is required by WAC 173-340-360. Asarco's own cost estimate indicates that this cleanup will cost in excess of $96 million.

GQ	Comment ID	Last Name
5.2.2	148	Aldrich

Comment

Section 5.1 Introduction. page 55 second paragraph Cleanup costs should be included in this discussion. Cleanup costs are required to be addressed in the remedy selection process. WAC 173-340-360(5)(d)(vi). In particular, cleanups are not practicable "if the incremental cost of the cleanup is substantial and disproportionate to the incremental degree of protection it would achieve over a lower preference cleanup action."

GQ	Comment ID	Last Name
5.2.2	149	Aldrich

Comment

Section 5.3.1. Alternatives Evaluated. pages 58-59 The discussion in the draft CAP about alternatives fails to address critical issues regarding the relative impact of the alternatives and how adverse consequence could be avoided by alternate decisions. First, it assumes adverse impacts on public health from leaving soil at any level above 20 ppm, but does not identify these effects or discuss them. For example, the draft CAP fails to identify how many children live in the Former Arsenic Trioxide Processing Area and in the Peripheral Area. Of these, how many fall within the group of highly exposed and sensitive children that the cleanup is designed to protect? In other words, the soil ingestion assumptions are addressed to the 95 % UCL child who is assumed to ingest 200 mg of soil/day. Even under Ecology's assumptions, only approximately 5% of the total population of children in the area could fall in this category. Only these children are even theoretically at risk. Ecology has not identified or even estimated the number of such children. Without performing this analysis, Ecology is unable to weigh the purported benefit of cleanups at different levels to the remediation and transportation risks that have been documented, and which increase proportionately relative to the volume of soil excavated and removed to alternate locations. As Asarco has already demonstrated, the remediation risk factor alone requires use of Method C, rather than Method B under Ecology's regulations. See Section E. Because cleanup to 20 ppm will generate such a high volume of soil to be excavated and transported, the actual human health impacts from implementation of the remedy in terms of projected accidents will likely far exceed the theoretical risk from arsenic exposure. See Dr. Beck Statement in Section E. Second, as noted, the draft CAP does not identify the cost of the proposed remedy compared to alternatives. This is a critical omission which makes it impossible for Ecology to perform the "substantial and disproportionate" analysis required by WAC 1 73-340-360(5)(d)(vi).

GQ	Comment ID	Last Name
5.2.2	152	Aldrich

Comment

Section 6.2.1.1 Development of the Soil Removal and Containment Remedy. pages 72-84; Ecology's determination that a soil barrier of at least 12 inches of soil is necessary to meet threshold requirements is arbitrary and is not based on current science. As discussed previously, Ecology's determination that a soil barrier is required to contain 20 ppm arsenic is not supported by current science. Remediation to this soil background level bears no reasonable or rational relation to protecting human health from any plausible cancer risk.

GQ	Comment ID	Last Name
5.2.2	153	Aldrich

Comment

Section 6.2.1.1 Development of the Soil Removal and Containment Remedy. pages 72-84; Ecology has failed to consider practicability in selection of their cleanup action and has presented no substantial and disproportionate analysis for the range of viable remedial alternatives. The draft CAP provides no evaluation of cleanup action costs and has selected a remedy that is impracticable under MTCA. The draft CAP justifies its lack of analysis with the statement "..in selecting the Consolidation Facility alternative, the department has already given great consideration to cost by selecting cleanup options which are among the least permanent of the available cleanup technologies." However, an actual evaluation of costs demonstrates that the Consolidation Facility has a minimum effect on the overall cost of the remedy of less than $4 million in a total remedy cost of approximately $96 million and is not relevant to a substantial and disproportionate analysis at all. See Attachments H-1 and H-2.

GQ	Comment ID	Last Name
5.2.2	154	Aldrich

Comment

Section 6.2.1.1 Development of the Soil Removal and Containment Remedy. pages 72-84; The estimate of arsenic levels which are protective against acute effects in children used in the draft CAP contains a series of conservative assumptions, which taken together results in an unrealistic analysis. A detailed discussion of this issue is included in Section E.

GQ	Comment ID	Last Name
5.2.2	155	Aldrich

Comment

The draft CAP provides no basis for the selected cleanup levels at the 12-24 inch and 24 inch to 15 foot soil horizons. 1) As explained in Section E, the 60 ppm average and 150 ppm single hit standard bear no reasonable relationship to any significant human health effect. Moreover, the end points identified are transient health effects such as nausea and diarrhea. These effects are too minor and short-lived to justify the expense involved. 2) The draft CAP states that these cleanup levels were selected based on a cost analysis. No supporting information is provided, and the attachment (Attachment H-2) demonstrates that the selected remedy is not consistent with WAC 173-340-360 (Substantial and Disproportionate Analysis). In particular, the regulation requires the cost to be compared to the net additional protection achieved, compared to less expensive remedies. Ecology simply compared alternatives in terms of level expenditure without regard to the degree of health protection. By doing so, it attempted to mask the fact that no additional protection will be achieved by the 20 ppm cleanup level. 3) The draft CAP provides that a marker such as a geomembrane or coarse gravel layer shall be placed at the bottom of the excavated 0-12 inch horizon. Although this, by itself, will provide an institutional control that will greatly limit exposure to deeper soil horizons by small children, that factor is ignored in setting cleanup levels in soils deeper than 12 inches. 4) The draft CAP selects a cleanup level of 150 ppm, with no single sample to exceed 500 ppm, for the soil horizon from 24 inches to 15 feet. As explained in the attached review of Ecology's analysis of acute health effects, there is no credible evidence of human health effects at this level of exposure. Indeed, it is lower than the level that Ecology agreed was protective for surface soils at Ruston. 5) Ecology's selection of the cleanup levels below 12 inches is not consistent with its own regulations disallowing selection of remedies that impose costs that are substantial and disproportionate to human health risk reduction. 6) Ecology provides no evidence that exposure to 15 feet needs to be regulated at all. This exceeds any reasonable foundation excavation in a residential area: typical foundation and utility depth is around 4 feet; a full basement could go to a depth of 8 feet.

GQ	Comment ID	Last Name
5.2.2	156	Aldrich

Comment

Figure 6-6 page 85 It is unclear how Ecology derived the volume of soil to be removed in the Peripheral Area (145,000 cubic yards). Appendix A, Section 3 has estimated that approximately 166,000 cubic yards would be excavated. Asarco's comments on the volume estimate are contained in the draft EIS comments.

GQ	Comment ID	Last Name
5.2.2	157	Aldrich

Comment

Section 6.2.1.2 Implementation of Remedy pages 84-89 As discussed in the previous section, the draft CAP requires that "a permanent marker material (coarse gravel or a durable, permeable geofabric) shall be placed at the bottom of the excavation if sampling indicates the underlying soil has an average arsenic concentration above the cleanup level of 20 ppm or a maximum arsenic concentration exceeding 40 ppm." Placement of this marker along with other institutional controls, such as the public education program, provides a high level of protection from exposure to deeper soils. However, this level of protection is not considered by Ecology in setting remediation levels for deeper soils.

GQ	Comment ID	Last Name
5.2.2	172	Aldrich

Comment

Justification for Selection of Cleanup Action. Ecology's ultimate rationale for its Draft Cleanup Action Plan is institutional rather than health-based. Its key decision is that attainment of the cleanup level of 20 ppm is a "threshold" requirement that must be met regardless of lack of scientific merit and despite substantial and disproportionate cost compared to less expensive remedies that would fully protect human health. Remarkably, Ecology concludes that even the fact that implementation of its chosen remedy will result in a net increase in total human health risk is irrelevant.

GQ	Comment ID	Last Name
5.2.2	245	Aldrich

Comment

Cost; The draft CAP contains no substantive discussion of overall cost, and no evaluation whether the costs are substantial and disproportionate to benefits to human health. It purports to evaluate action levels below 12 inches in terms of cost, but does so only via a graph such that the basis for the decision is not comprehensible to the reader from the information provided. See Section B and Attachments H-1 and H-2.

GQ	Comment ID	Last Name
5.2.2	247	Aldrich

Comment

Moreover, for the 12 inch to 24 inch soil horizon, Ecology has selected a soil cleanup level that is tailored to avoid a risk of temporary nausea or diarrhea that could arise in the unlikely event that a child 10 times more susceptible than a normal child consumed large volumes of soil. The draft CAP contains no discussion as to how short-term nausea or diarrhea can be appropriate health effects on which to base selection of a cleanup level, or what the appropriate cleanup level would be if serious health effects were considered. The cleanup level for 24 inches and deeper, set at 150 ppm arsenic, is purportedly based on an unreasonable risk of lethal effects from soil ingestion. Ecology fails to explain how it can reconcile that conclusion with its endorsement of 230 ppm at Ruston as protective for surface soils.

GQ	Comment ID	Last Name
5.2.2	253	Aldrich

Comment

Vegetative Cover. The draft CAP fails to consider new guidance from EPA on the effectiveness of sod covers in reducing exposure to heavy metals and what effect maintenance of a sod cover has on actual arsenic exposure. Urinary arsenic information now available from Everett indicates that the cover is a substantial barrier to ingestion of sufficient volumes of soil to affect urinary arsenic levels. ATSDR data shows that urinary arsenic levels are not elevated. Instead, the draft CAP simply postulates that because the sod cover might occasionally be breached, it should assume the same level of arsenic exposure will occur from grass-covered residential soils as from bare dirt. That assumption has no rational basis. Clearly, at a minimum, a sod cover reduces exposure, a factor that should be taken into account in setting appropriate cleanup levels in each of the soil horizons.

GQ	Comment ID	Last Name
5.2.2	263	Taylor

Comment

This draft document represents the future of a residential neighborhood in Northeast Everett. The proposed cleanup actions will NOT "protect current and future generations from potential threats to human health and the environment" as stated by Stephen Alexander, DOE Toxics Cleanup Program, January 26, 1999.

GQ	Comment ID	Last Name
5.2.2	288	Valeriano

Comment

In order to move towards a more permanent solution we would like Ecology to establish the remedial level for the different depths in the peripheral area at 20 ppm. While we understand that you have tried to address the community's concern and establish a remedial level of 20 ppm up to one foot, we believe that in the long run it makes more sense to remove as much of contamination as possible the first time so the expense of monitoring, sampling and maintaining institutional controls is minimized, the potential for future contamination and migration is minimized, the health of the community is protected and the peace of mind of the community begins to be restored.

GQ	Comment ID	Last Name
5.2.2	327	Aldrich

Comment

None of these consequences are necessary. Under its regulations, Ecology can consider disproportionate cost, can avoid negative impacts on human health, and could utilize new scientific information about arsenic to avoid these unfortunate effects. Asarco urges it to do so.

GQ	Comment ID	Last Name
5.2.2	329	Aldrich

Comment

As discussed previously, Ecology has arbitrarily determined that a soil barrier is required to meet "threshold" requirements and by this determination has ruled out consideration of alternatives with lesser costs but which provide equivalent protection. These other alternatives for residential areas were provided by the Technical Working Group. In addition, as discussed in specific comments on Section 4, above, Ecology's failure to consider cost becomes even more extreme in the selected cleanup action for commercial and recreational levels where remediation levels have been selected based on assumed exposures that will never occur.

GQ	Comment ID	Last Name
5.2.2	368	Glass

Comment

There is an apparent tradeoff between practicability issues in selecting MTCA cleanup actions and restoration of single-family residential land use that existed prior to site discovery. The CAP and EIS should discuss in more detail how this tradeoff is considered in making practicability decisions on cleanup actions.

GQ	Comment ID	Last Name
5.2.2	369	Glass

Comment

Can community restoration, as well as degree of protectiveness, be considered as a benefit in the cost-benefit analyses of practicability? If not, does this set an unfortunate precedent that the purchase of contaminated property by a PLP can result in less complete site cleanup and restricted land uses, regardless of the community setting in which the property purchase occurs?

GQ	Comment ID	Last Name
5.2.2	371	Glass

Comment

See CAP Figures 6-1 through 6-5: These figures are used for an analysis of practicability for soil removal and replacement actions. They are derived from a database of interpolated values for individual properties and soil depth intervals, using available site characterization data as a basis for interpolation. The number of properties with interpolated values generally decreases with increasing depths, to markedly fewer than the 556 properties with interpolated surficial soils values (noted on page 84). This reflects the limitations in available site characterization data for soils contamination. A primary reason only areas closer to the smelter were sampled at greater depth intervals is a site conceptual model that suggests more distant properties have only limited depths of contaminated soils. The Figures all have vertical scales in units of percent of soil volume exceeding given soil arsenic concentrations. Given the conceptual model of the site, the deeper the soil interval, the fewer the number of properties to which the Figure applies. This means that criteria for disproportionality derived from examination of a single depth interval at a time have varying effects on the overall cleanup costs, since they affect fewer and fewer properties with increasing depths. Ecology might consider this effect in deriving final concentration-by-depth remediation levels; for example, the effect on total cleanup costs of a maximum soil arsenic concentration of 250 ppm rather than 500 ppm at depths below 2 feet is likely to be small. The figures should be annotated with the number of properties included in the interpolated database.

GQ	Comment ID	Last Name
5.2.2	374	Glass

Comment

See pages 77 and 83: The CAP discusses the remediation levels for average arsenic concentrations for the 12-24 inch and >24 inch depth intervals in relation to acute health effects evaluations by DOH. Since the acute analyses by DOH are based on short-term (one-day or less) exposure scenarios, the assumption that contact occurs over an area as large as a complete decision unit (4,000 square feet or more), as reflected in an average concentration criterion, is inappropriate. Short-term exposures to considerably higher concentrations at specific locations within a decision unit could occur even if the DU average concentration criterion was met. Acute criteria are reasonable compared against maximum concentrations, not area-averaged concentrations. This is correctly stated on page 76. Potential recontamination of surficial soils, where frequent contact could occur and chronic exposures are of concern, may be one alternate basis for evaluating average concentration criteria for deeper soil depth intervals.

GQ	Comment ID	Last Name
5.2.2	375	Glass

Comment

See page 84: the references to Figures 6-6 and 6-7 appear to be reversed in the text.

GQ	Comment ID	Last Name
5.2.2	376	Glass

Comment

See CAP Figure 6-6, page 85: As noted in the text, these soil volume estimates are only for those residential properties in the peripheral area for which interpolated values are included in the database. They are understood to be imperfect estimates. The comparison of soil volumes reflected in the two columns is nevertheless meaningful. The EIS includes an estimate of total soil removal volumes for the selected remediation levels in the peripheral area, including both residential and non-residential properties (see EIS Tables 3-4 and 4-3). The total volume estimated in the EIS is 162,000 cubic yards, with perhaps an additional minor increment of 4,000 CY of >3,000 ppm arsenic soils for disposal at Arlington, OR (see page A4-42). The CAP states in section 4.1.2 that cleanup standards for commercial and recreational land use areas within the site will be identical to those for residential areas. Apparently the same remediation levels also will apply to all peripheral area properties, regardless of current land use. Given the extent and locations of non-residential areas in the peripheral area, it is likely that more than 21,000 cubic yards of accessible soil (the difference between the EIS total estimate of 166,000 CY and the 145,000 CY shown for residential properties in Figure 6-6) will exceed the stated remediation levels. The two volume estimates appear to be incommensurate. Ecology should consider additional discussion in the CAP regarding non-residential property cleanup actions in the peripheral area. The practicability analyses for applying the same cleanup levels and remediation levels at non-residential properties should be further developed and presented. I understand that soil arsenic criteria for non-residential land uses are being developed at another MTCA site (Former DuPont Works), which may provide some comparison analyses. With respect to sampling at non-residential properties, would it not be reasonable to modify the size of decision units to something greater than 4,000 square feet?

GQ	Comment ID	Last Name
5.2.2	407	Aldrich

Comment

Consistent with its own regulations, it must also evaluate the cost of this cleanup relative to the marginal reduction in health risk, and consider the adverse effects of this extraordinary remediation itself on public health.

GQ	Comment ID	Last Name
5.2.2	428	Aldrich

Comment

The cost of proposed actions relative to benefit to the environment and community were not appropriately considered.
As noted in the prior comments, Ecology is taking inappropriate and unscientific positions with regard to selecting cleanup and remediation levels, proposed actions at those levels, and the sampling methodology to determine the need for action and to confirm that remediation goals are achieved. However, the social, environmental and financial consequences of these decisions are given only superficial consideration. Ecology should not make fundamental decisions regarding cleanup of the Everett Smelter Site without first considering the extent and duration of the construction-related impacts on the neighborhoods along with the potential benefits and the cost of the planned actions. Nor can citizens, city and county government, and others make informed decisions without this information. Specifically, with regard to the cost of implementing the draft CAP, no new information is provided, and only a portion of the existing cost information is referenced.

GQ	Comment ID	Last Name
5.2.2	429	Aldrich

Comment

As noted in the preceding general comment, the draft CAP does not describe the anticipated extent of the planned cleanup activities. Also, as noted, it is highly likely that, given the very low cleanup level, the removal and replacement of the top foot or more of residential soils will extend well beyond the existing CPM boundary. In addition, the application of the 20 ppm arsenic and 353 ppm lead remediation levels to commercial and public areas will have further cost ramifications both within and outside of the current CPM. None of these issues appear to have been considered by Ecology in developing the draft CAP.

GQ	Comment ID	Last Name
5.2.2	430	Aldrich

Comment

The draft CAP refers to the substantial and disproportionate cost analysis conducted in the feasibility study (FS) to support decisions on selection of remediation levels. However, it ignores that even with the limited data available at the time of the FS, the prior substantial and disproportionate cost analysis does not support selection of an arsenic cleanup level of 20 ppm. The FS analysis clearly indicated a higher remediation level would be required. The FS findings are consistent with a subsequent analysis of the FS conducted by Ecology in 1997, Determination of Total and Accessible Soil Volumes and Associated Cleanup Costs at the Everett Smelter Site. That Ecology analysis also indicated a substantial and disproportionate cost premium for a 20 ppm arsenic cleanup level. Both of these analyses, even though limited to the immediate area around the former smelter site, support selection of an arsenic remediation level much higher than 20 ppm. More importantly, the disproportionality identified in these reports becomes far greater when the more recent distant data points are included in projections of the extent of soil removal and replacement (see Attachment H-2).

GQ	Comment ID	Last Name
5.2.2	431	Aldrich

Comment

Ecology also refers to cost estimates produced during mediation by the Technical Work Group, implying a relationship to the cost of implementing the draft CAP. During mediation, several example cleanup alternatives were developed and the potential costs of each estimated. As noted in the draft CAP, mediation alternative B has components similar to those identified in the draft CAP and was estimated to have costs of approximately $86,000,000. However, consistent with the earlier FS and Ecology cost estimates, it was acknowledged that the extent of soil removal and replacement beyond the CPM boundary, although required under alternative B, could not be projected; therefore, only limited assumptions were made about the cost of cleanup outside the current CPM boundary. In addition, as discussed in the detailed comments, there are many other components of the draft CAP that will be more costly to implement than those contemplated during mediation discussions as part of alternative B (e.g., more involved institutional controls).

GQ	Comment ID	Last Name
5.2.2	432	Aldrich

Comment

In order to better understand the costs of implementing the draft CAP, Asarco has conducted a preliminary analysis of project costs. The estimate addresses both the near-term capital and long-term O&M costs associated with the draft CAP. Asarco's preliminary estimate of project costs is over $96,000,000 (assuming backfill soils with arsenic concentrations up to 20 ppm may be used). (See discussion below.) The portion of costs addressing peripheral area soil removal and replacement is estimated to be over $70,000,000. Although analysis indicates that the extent of the cleanup may go well beyond the current CPM boundary, the attached preliminary estimate allows for only 46 residential properties outside the current CPM boundary being remediated. It is thus an underestimate of cost.

GQ	Comment ID	Last Name
5.2.2	433	Aldrich

Comment

Selection of Remedy - §4.12 – Addendum Further examination of the attached cost estimate shows that a very large portion of the peripheral area costs are associated with the removal and replacement of soils very near 20 ppm arsenic. The draft CAP is not clear on the proposed requirements for replacement soil used to backfill excavated areas, providing two possible interpretations: arsenic levels below 0.67 ppm or below 20 ppm. As discussed above, the typical arsenic concentration in soils in the Western U.S. is 5 ppm. Even if soils with arsenic concentrations below 0.67 ppm and with suitable physical characteristics could be found, the cost would be extraordinary. On the other hand, if the requirement for backfill is to have arsenic concentrations with less than the background value of 20 ppm arsenic, the Ecology approach would allow for removal of soils with 21 ppm arsenic and backfilling with soil containing 19 ppm arsenic. The limited practical benefit of this type of remedial action is obvious. The attached estimates show the large potential expenditures associated with aspects of the draft CAP that have essentially no practical value.

GQ	Comment ID	Last Name
5.2.2	434	Aldrich

Comment

It should also be noted that it has been Asarco's experience in implementing remedies at several other residential smelter sites, that the estimated extent of soil removal and replacement activities is always well below the actual extent of cleanup required. This experience is based on sites where the remediation levels are well above background concentrations and are also high enough to minimize the potential for influence from other urban sources of metals. Given the very low remediation levels prescribed by the draft CAP, it is likely that all estimates of project scope and cost will turn out to be low.

GQ	Comment ID	Last Name
5.2.2	435	Aldrich

Comment

Ecology should consider the likely extent and corresponding cost of cleanup activities along with the ramifications of removing and replacing soil with arsenic concentrations slightly above 20 ppm from large portions of northeast Everett. The consideration should weigh the likely harm from the extensive protracted construction activity and truck traffic with the real benefit of lowering the average soil arsenic concentration by a few ppm. In its new science submittal, Asarco has provided information that should be considered by Ecology when weighing these important issues.

GQ	Comment ID	Last Name
5.2.2	440	Aldrich

Comment

Ecology did not follow its owns regulations and guidance in developing the Cleanup Action Plan. The MTCA regulation, and guidance documents prepared by Ecology interpreting it, establish a process for investigating a site and selecting a remedy if it is determined that there is a threat to human health or the environment from the presence of a hazardous substance at the site. In selecting a remedy, there are several factors that Ecology is directed to consider. In preparing the draft CAP containing the proposed remedy for Everett, Ecology has ignored these factors in direct contravention of its own regulation. Its entire analysis is premised on an assumption that 20 ppm as a cleanup and removal level is a "threshold" requirement that must be met regardless of cost, scientific validity, and whether or not it results in a net benefit to protecting human health. In fact, the threshold requirement of protecting human health and the environment can be met at a remediation and removal level well above 20 ppm arsenic.

GQ	Comment ID	Last Name
5.2.2	441	Aldrich

Comment

Once a potential "site" is discovered, a remedial investigation/feasibility study (RI/FS) is performed, Ecology evaluates the RI/FS, establishes cleanup levels, or remediation levels where appropriate, selects cleanup standards in accordance with the procedures in WAC 173-340-700 through -760, and selects a cleanup action or remedy that protects human health and the environment and that will meet the other requirements of WAC 173-340-360. WAC 173-340-120(4)(b). The regulation provides flexibility as well as opportunities, and in some cases requirements, to consider site-specific information. The final cleanup action that is selected may consist of several cleanup technologies, including, for example, on-site containment, soil removal, and institutional controls, that are triggered by the cleanup levels and remediation levels. WAC 173-340-700(2) - (4).

Once a cleanup level is selected (20 ppm arsenic in the draft CAP), the next step is the determination of the cleanup standard. Establishing cleanup standards for a site requires selection of the cleanup level ("hazardous substance concentrations that protect human health and the environment"), or remediation levels, points of compliance ("locations on the site where those cleanup levels must be met"), and any additional regulatory requirements that may apply at the site because of the type of action to be taken and/or the location of the site ("ARARs"). WAC 173-340-700(2)(a). One of these additional regulatory requirements is found in the soil cleanup standards section, WAC 173-340-740(1)(a): "In the event of a release of a hazardous substance, treatment, removal, and/or containment measures shall be implemented for those soils with hazardous substance concentrations which exceed soil cleanup levels based on this [residential] use... ." Ecology, however, has ignored that other provisions of MTCA, Part VII - Cleanup Standards not only qualify this sentence but establish equally applicable requirements that must be followed in setting the cleanup standard and selecting the appropriate cleanup action. WAC 173-340-700(2)(a) sets the stage for determining how, for example, the soil cleanup standards section, WAC 173-340-740(1)(a), should be used.

This part provides uniform methods state-wide for identifying cleanup standards and requires that all cleanups under the Act meet these standards. The actual degree of cleanup may vary from site to site and will be determined by the cleanup action alternative selected under WAC 173-340-360. (Emphasis added.)

Thus, although the cleanup standards provisions prescribe rules of general applicability, they are not absolutes. Instead, they are subject to site-specific factors and the cleanup action selection process. Further, WAC 173-340-700(7)(a) states that Part VII "shall be used in combination with" Section 360 - selection of cleanup actions. Although Method A may be used to establish cleanup levels, the regulations state, "Exceedances of the values in these tables do not necessarily trigger requirements for cleanup action under this chapter." WAC 173-340-704(4). Other provisions in Part VII establish "additional regulatory requirements" that go into the setting of the cleanup standard: 1) At most sites, several cleanup technologies or combinations of cleanup technologies may be used to comply with cleanup standards (WAC 173-340-700(2)(b)). It is appropriate to consider a representative range of technologies, as well as different combinations of technologies, "to accomplish the overall site cleanup." (WAC 173-340-700(7)(g)). 2) Other parts of this rule govern the process for planning and deciding on the cleanup action to be taken - requiring the identification of cleanup action alternatives in the FS and that WAC 173-340-360 specifies the criteria for selecting the preferred alternative. (WAC 173-340-700(2)(b)). 3) While cost is not a factor in determining the cleanup level, it may be appropriate for certain determinations related to cleanup standards and shall be considered when selecting an appropriate cleanup action. (WAC 173-340-700(7)(f)). 4) A remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action as long as certain conditions are met (WAC 173-340-700(7)(i)). 5) Institutional controls shall be required whenever a cleanup action results in residual concentrations of hazardous substances which exceed methods A or B cleanup levels. (WAC 173-340-702(4)).

Thus, while WAC 173-340-740(1)(a), regarding cleanup standards for residential areas, is a requirement, it is conditioned by site-specific factors, other portions of Part VII, and WAC 173-340-360, the selection of cleanup actions provision. It is also part of a regulatory process. WAC 173-340-740(1)(a) does not "trump" other provisions of the regulation - particularly WAC 173-340-360. Indeed, the regulations require that Section 700, the remainder of Part VII and WAC 173-340-360 "shall be used in combination." WAC 173-340-700(7)(a).

WAC 173-340-360 sets forth the requirements for selecting cleanup actions. It is a comprehensive section. It specifies the criteria for approving cleanup actions, the order of preference for cleanup technologies, policies for permanent solutions, the application of these criteria to particular situations, and the process for making these decisions. This section is intended to be used in conjunction with the cleanup standards defined in WAC 173-340-700 through 173-340-760 and the administrative principles for the overall cleanup process (WAC 173-340-130). (WAC 173-340-360(1)). (Emphasis added.)

Pursuant to WAC 173-340-360, cleanup actions must: protect human health and the environment; comply with cleanup standards; comply with applicable state and federal laws; provide for compliance monitoring; use permanent solutions to the maximum extent practicable; provide for a reasonable restoration time frame; and, consider public concerns.

WAC 173-340-740(1)(a) is part of the cleanup standard requirement; however, it is subject to modification on a site-specific basis both as a result of the language in Part VII itself (as outlined above) and by WAC 173-340-360. In particular, the use of "permanent solutions" such as treatment and removal, while a preference in this rule, "may not be practicable for all sites" and is limited to "permanent solutions to the maximum extent practicable." Seven criteria are used to determine "permanent to the maximum extent practicable": overall protectiveness; long-term effectiveness; short-term effectiveness; permanent reduction of toxicity, mobility and volume of the hazardous substance; implementability; the degree to which community concerns are addressed; and, cleanup cost. These are not a hierarchy, but merely criteria to be considered in determining whether a remedy is permanent. Specifically, "a cleanup action shall not be considered practicable if the incremental cost of the cleanup action is substantial and disproportionate to the incremental degree of protection it would achieve over a lower preference cleanup action." The requirement in WAC 173-340-740(1)(a) is, therefore, subject to the site-specific criteria established in WAC 173-340-360(5), including the cleanup cost test.

Reading Part VII and Section 360 "in combination" and "in conjunction," it is evident that the regulations allow flexibility on a site-specific

basis for selecting a range of cleanup actions and technologies for varying levels of arsenic concentrations, in this case, above the selected cleanup level. Assuming that all of the criteria in WAC 173-340-360(5) are met, as well as the rest of WAC 173-340-360, the MTCA regulations would allow soil removal to be triggered by a level higher than the cleanup level (i.e., a remediation level), and would allow for the use of other cleanup technologies from WAC 173-340-360(4) for remaining soils above the cleanup level. This conclusion is supported not only by the language of Section 360 but also by the provisions in Part VII referenced above, including those that specify that a combination of technologies may be used and that a remedy that leaves hazardous substances on a site in excess of cleanup levels may qualify as a cleanup action.

GQ	Comment ID	Last Name
5.2.2	443	Aldrich

Comment

In preparing the draft CAP, Ecology should have followed the process outlined above. However, Ecology did not utilize its own regulations and guidance available for selecting a remedy at Everett. The draft CAP contains numerous examples of this failure by Ecology, including the following: 1) Ecology defines the policies and principles that Ecology is to utilize "to ensure that cleanup standards...are established and implemented in a scientifically and technically sound manner," at WAC 173-340-702. One of these principles is that Ecology shall consider "new scientific information" when establishing cleanup levels for a site. WAC 173-340-702(6). However, in spite of this directive in its own regulation, Ecology has failed to appropriately consider any new science as the basis for selecting a remediation level for the 0 to 12 inch depth interval at the site. It also ignored the relevant scientific information in setting cleanup levels for soils below 12 inches. See Sections E and F. 2) A remedy may not be practicable if a substantial and disproportionate cost analysis demonstrates that a lower cost alternative is equally protective. However, Ecology selected a remedy without performing a comprehensive substantial and disproportionate analysis of the proposed cleanup action. In fact, there is no substantive discussion of overall cost to be found anywhere in the draft CAP. Ecology has ignored its own regulatory requirement to consider the cost of a remedy. See Section B and Attachments H-1 and H-2.
Ecology concluded that selection of a 20 ppm arsenic cleanup level is a threshold requirement that must be met in the 0 to 12 inch depth interval even if implementation of the remedy of digging and hauling all soils with concentrations of arsenic above 20 ppm would lead to a net increase in human health risk. WAC 173-340-706 allows the use of Method C cleanup levels in lieu of Method A or B when attainment of Method A or B has the potential for creating a significantly greater overall threat to human health than attainment of Method C levels. Ecology's own data demonstrates that attainment of a 20 ppm arsenic cleanup level will cause a net increase in human health risk, yet Ecology has failed to apply the flexibility its own regulation permits. See Attachment H-3.

GQ	Comment ID	Last Name
5.2.2	480	Aldrich

Comment

As explained elsewhere in these comments, the cost component of this analysis is unintelligible, extremely abbreviated, and inconsistent with Ecology's own regulations. No meaningful cost data is presented, only a rough graph summarizing soil concentrations at various levels is included, and no "substantial and disproportionate" analysis was conducted in which the various cost increments are compared to changes in the degree of human health protection achieved by less expensive alternatives.

GQ	Comment ID	Last Name
5.2.3	253	Aldrich

Comment

Vegetative Cover. The draft CAP fails to consider new guidance from EPA on the effectiveness of sod covers in reducing exposure to heavy metals and what effect maintenance of a sod cover has on actual arsenic exposure. Urinary arsenic information now available from Everett indicates that the cover is a substantial barrier to ingestion of sufficient volumes of soil to affect urinary arsenic levels. ATSDR data shows that urinary arsenic levels are not elevated. Instead, the draft CAP simply postulates that because the sod cover might occasionally be breached, it should assume the same level of arsenic exposure will occur from grass-covered residential soils as from bare dirt. That assumption has no rational basis. Clearly, at a minimum, a sod cover reduces exposure, a factor that should be taken into account in setting appropriate cleanup levels in each of the soil horizons.

GQ	Comment ID	Last Name
5.2.3	331	Aldrich

Comment

The draft CAP calls for placement of the least contaminated soils in the consolidation facility. Placement of these soils under a cap in the fenced area provides no more protection than leaving them in place under grass cover. The difference in risk is so marginal as to be outweighed by remediation risk so that the cost is substantial and disproportionate to the benefit. In addition, the proposed staging implies that Ecology is not that concerned about the soils with arsenic concentrations above their estimated acute risk level that will be remediated later in the overall remediation schedule.

GQ	Comment ID	Last Name
5.2.4	318	Golder-Crippen Consultants Ltd.

Comment

We believe that a "Commitment to Cleanup" as highlighted by the Washington State Department of Ecology implies a commitment to a renewed environmental stewardship. The proposed action of sending contaminated soil to another landfill off-site in some ways repeats the problematic site history of which ASARCO was part, where contaminated soils were buried as a means of disposal. While we have not had the opportunity to review the entire document trail which chronicles the lengthy process of environmental decision making of the site, we have concern that the dismissal as non-feasible of options other than landfilling soil does not stand up to critical scrutiny. We believe that the ChemTech soil treatment process could be effective to protect both human health and the environment at the Smelter Site. We have first hand experience with a version of soil washing of the Everett Smelter site soils.

GQ	Comment ID	Last Name
6.1.1	69	Newton

Comment

I have lived at the edge of the contaminated area for 32 years. My four children are healthy and we have all eaten produce from the garden for 32 years.

GQ	Comment ID	Last Name
6.1.1	104	Public Meeting Commentor

Comment

What are the health effects of low levels (20-100 ppm) of arsenic? What should we do? What shouldn't we do? What plants should we avoid planting? What health effects should we look for?

GQ	Comment ID	Last Name
6.1.1	116	Ryan

Comment

p. 88; It is nice to have "clean" vegetable gardens to 18" but the term needs definition. Is it current gardens or proposed? What constitutes a "vegetable garden" as opposed to other kinds?

GQ	Comment ID	Last Name
6.1.1	401	Glass

Comment

Some areas of high activity and comparatively deeper and more frequent soil disturbance, such as gardens, would justifiably require more than 12 inch clean cap thickness to maintain protectiveness. I agree with this principle as it is included in the Draft CAP and encourage Ecology to retain it. This would be a good fit with the concept that homeowners could identify one or two special DUs; the remediation levels down to 18 or 24 inches at those limited areas could be maintained at the cleanup standards (average and maximum concentrations).

GQ	Comment ID	Last Name
6.1.2	113	Ryan

Comment

6.2.1.2 While I fully appreciate the desire to mark the depth of remediated soils, I am greatly concerned with the suggestion that coarse gravel be used in place of geofabric for such a marker. At depths of 24" or more it may be acceptable but should not be used over the wide area where excavations of 12" or less will be made. Over time, uncovering a layer of gravel will be much less apt to advise future property owners of a potential problem than a geofabric would be.

GQ	Comment ID	Last Name
6.1.2	257	Reninger

Comment

A permanent marker below the re-established grade to provide warning in the future to property owners, contractors and workers is a good means to assure both worker safety compliance and legal/proper disposal methods are used. Without such a marker, leaving arsenic soils above 20 ppm at the 12" below grade level would just perpetuate contaminated soils being brought to the surface. Without a marker, soils with arsenic greater than 20 ppm would need to be removed down to the 18" and/or 24" below grade level. Typically, most simple building foundations are constructed with the bottom of footing elevation at 24" below grade. Please confer with the City of Everett Building Dept. As you are aware, construction sites (especially residential) are very attractive nuisances to grade school children.

GQ	Comment ID	Last Name
6.1.3	4	Ryan

Comment

p. 87 pp1; There are very apt to be "permanent structures" in this area which may have not been built under city permit. (Advice from some residents) Perhaps this should be rephrased.

GQ	Comment ID	Last Name
6.1.3	216	Aldrich

Comment

Asarco is concerned that the integrity of many of the nonpermanent structures will not allow them to be moved for remediation. Therefore, it is not appropriate for Asarco to move temperate structures, remediate beneath them, then replace them with new nonpermanent structures. The draft CAP defines a permanent structure as "a structure which was built according to the Uniform Building Code under permit from the City of Everett, and was designed to be used indefinitely with proper maintenance." This definition is overly restrictive, will result in construction work being performed that is unrelated to any environmental issues and is not appropriate in the consideration of whether a structure is a suitable barrier. Other factors such as the actual barrier thickness (concrete roads for large trucks are often up to two feet thick and would be appropriate barriers regardless of their condition), location (for example, the exposure scenario of a child ingesting soil each day for 6 years is not plausible in service areas such as gas station lots, commercial areas, recreational areas, fenced storage areas and other non-residential uses).

GQ	Comment ID	Last Name
6.1.4	216	Aldrich

Comment

Asarco is concerned that the integrity of many of the nonpermanent structures will not allow them to be moved for remediation. Therefore, it is not appropriate for Asarco to move temperate structures, remediate beneath them, then replace them with new nonpermanent structures. The draft CAP defines a permanent structure as "a structure which was built according to the Uniform Building Code under permit from the City of Everett, and was designed to be used indefinitely with proper maintenance." This definition is overly restrictive, will result in construction work being performed that is unrelated to any environmental issues and is not appropriate in the consideration of whether a structure is a suitable barrier. Other factors such as the actual barrier thickness (concrete roads for large trucks are often up to two feet thick and would be appropriate barriers regardless of their condition), location (for example, the exposure scenario of a child ingesting soil each day for 6 years is not plausible in service areas such as gas station lots, commercial areas, recreational areas, fenced storage areas and other non-residential uses).

GQ	Comment ID	Last Name
6.1.5	114	Ryan

Comment

p. 87 pp2; Asphalt and concrete must be upgraded by remediators or property owners?

GQ	Comment ID	Last Name
6.1.5	326	Aldrich

Comment

Reliance on requirements to upgrade asphalt or concrete not meeting ASTM standards appropriate for the service bears no relation to potential environmental risk. Proving existing asphalt or concrete pavement meets ASTM standards is not appropriate. First, there are unlikely to be records of certification that the asphalt or concrete was initially constructed in compliance with ASTM standards. ASTM standards are not generally required or documented for residential areas (e.g., sidewalks, patios, and driveways). Second, it is not necessary for asphalt or concrete to be in full compliance with ASTM standards to be an effective barrier (e.g., ASTM density or subgrade material requirements). Third, it is industry standard to collect core samples to determine compliance with ASTM standards. Coring may jeopardize the barrier's integrity at that location. Lastly, it is not appropriate to make Asarco responsible for upgrading existing asphalt and concrete that should be maintained by routine City service requirements (i.e., streets). Similarly removing decks that "impede" soil removal is not appropriate based on environmental considerations, nor is replacing the deck with one of better quality. The third paragraph on page 87 contradicts the sixth paragraph on page 87 by requiring areas with existing asphalt or concrete not meeting ASTM standards to have the soil beneath them remediated before re-applying asphalt or concrete. The sixth paragraph allows areas without existing asphalt or concrete to be paved without soil removal. The draft CAP would also require recaulking and repainting many window and door frames. It is likely that sealing with plastic will cause damage due to the use of tape.

GQ	Comment ID	Last Name
6.1.6	15	Robison

Comment

The option of paving unpaved driveways on cleanup properties as an alternative to removing contaminated soil bothers me. We want to remove contamination, not cover more of it up. Even if the homeowner wants it done, I would prefer to take the long view and be more protective for future generations. Perhaps there is a reason for this option that I do not know.

GQ	Comment ID	Last Name
6.1.6	115	Ryan

Comment

p. 87 pp6; there should not be a possibility of paving over accessible soils without remediation.

GQ	Comment ID	Last Name
6.1.6	326	Aldrich

Comment

Reliance on requirements to upgrade asphalt or concrete not meeting ASTM standards appropriate for the service bears no relation to potential environmental risk. Proving existing asphalt or concrete pavement meets ASTM standards is not appropriate. First, there are unlikely to be records of certification that the asphalt or concrete was initially constructed in compliance with ASTM standards. ASTM standards are not generally required or documented for residential areas (e.g., sidewalks, patios, and driveways). Second, it is not necessary for asphalt or concrete to be in full compliance with ASTM standards to be an effective barrier (e.g., ASTM density or subgrade material requirements). Third, it is industry standard to collect core samples to determine compliance with ASTM standards. Coring may jeopardize the barrier's integrity at that location. Lastly, it is not appropriate to make Asarco responsible for upgrading existing asphalt and concrete that should be maintained by routine City service requirements (i.e., streets). Similarly removing decks that "impede" soil removal is not appropriate based on environmental considerations, nor is replacing the deck with one of better quality. The third paragraph on page 87 contradicts the sixth paragraph on page 87 by requiring areas with existing asphalt or concrete not meeting ASTM standards to have the soil beneath them remediated before re-applying asphalt or concrete. The sixth paragraph allows areas without existing asphalt or concrete to be paved without soil removal. The draft CAP would also require recaulking and repainting many window and door frames. It is likely that sealing with plastic will cause damage due to the use of tape.

GQ	Comment ID	Last Name
6.1.7	326	Aldrich

Comment

Reliance on requirements to upgrade asphalt or concrete not meeting ASTM standards appropriate for the service bears no relation to potential environmental risk. Proving existing asphalt or concrete pavement meets ASTM standards is not appropriate. First, there are unlikely to be records of certification that the asphalt or concrete was initially constructed in compliance with ASTM standards. ASTM standards are not generally required or documented for residential areas (e.g., sidewalks, patios, and driveways). Second, it is not necessary for asphalt or concrete to be in full compliance with ASTM standards to be an effective barrier (e.g., ASTM density or subgrade material requirements). Third, it is industry standard to collect core samples to determine compliance with ASTM standards. Coring may jeopardize the barrier's integrity at that location. Lastly, it is not appropriate to make Asarco responsible for upgrading existing asphalt and concrete that should be maintained by routine City service requirements (i.e., streets). Similarly removing decks that "impede" soil removal is not appropriate based on environmental considerations, nor is replacing the deck with one of better quality. The third paragraph on page 87 contradicts the sixth paragraph on page 87 by requiring areas with existing asphalt or concrete not meeting ASTM standards to have the soil beneath them remediated before re-applying asphalt or concrete. The sixth paragraph allows areas without existing asphalt or concrete to be paved without soil removal. The draft CAP would also require recaulking and repainting many window and door frames. It is likely that sealing with plastic will cause damage due to the use of tape.

GQ	Comment ID	Last Name
6.1.8	31	Robison

Comment

Owners will, I understand, be involved in the work done on their property. This is important. Maybe there should be a buyout option if contamination is so deep that shoring of a foundation is required.

GQ	Comment ID	Last Name
6.1.8	336	Glass

Comment

Ecology states that soil excavation would be limited to depths not requiring shoring. A need for shoring near structures would not preclude excavating and removing soils over substantial parts of residential yards without shoring in many cases. The greater the residual contamination at a property, the more long-term issues will devolve to the property owner. Deeper excavations are likely to be indicated at only a small number of properties close to the former smelter facilities. Although unit costs for remediation at those properties would be comparatively higher, the effect on overall site cleanup costs should be minor. Ecology should target removal of high concentration materials, including those at deeper soil intervals, considering how much excavation could be achieved (in partial yard areas) without shoring.

GQ	Comment ID	Last Name
6.1.9	330	Aldrich

Comment

One issue which should have been considered in the substantial and disproportionate analysis of cleanup options is the requirements for backfill soil for excavation areas. The draft CAP provides that all excavations shall be filled with clean soil which is defined as having "no concentrations of any hazardous substance exceeding MTCA Method B standards." (Page 87) The draft CAP does not clearly define the requirements for arsenic levels in backfill soil and two interpretations are possible. The first is a requirement of less than 0.67 ppm arsenic and the second is a requirement less than 20 ppm. For completeness, both scenarios are discussed. For arsenic, Table 4-1 identifies the method B level as 1.67 ppm. However, Ecology in its Review of "New Science" states that it has chosen to employ a bioavailability factor of 100%, and use a Method B value of 0.67. MTCA, however, identifies soil background in the State at 20 ppm for arsenic. A subsequent Ecology study calculated Puget Sound background for arsenic at 7 ppm. There is no rational basis for requiring soils to be provided as backfill that have lower concentrations than which naturally exist at background. It defies common sense to identify unacceptable human health risks for a naturally-occurring substances as being encountered at any levels above 0.67 ppm, which is 30 times below natural background. That is tantamount to a finding that the natural environment is unreasonably dangerous to human health. Moreover, since residences which do not exceed the 20 ppm average will not be remediated at all, there is no rational basis to provide cleaner soils for those which are remediated. Soils with these below-background levels of arsenic either do not exist in this State or could be obtained only at substantial cost. Asarco estimates that 310,000 cubic yards of backfill will be required in the peripheral area. The use of backfill meeting 1.67 ppm arsenic, below background, bears no rational relation to protection of human health, and the cost is clearly substantial and disproportionate under WAC 173-340-360. A second interpretation of statements in the draft CAP is that backfill soils will be required to contain arsenic at less than 20 ppm. However, this interpretation also leads to irrational results. It would require removal of soils with 21 ppm arsenic and backfilling with soil containing 19 ppm arsenic. The public health effectiveness of this type of action would be minimal (less than 10% reduction in arsenic concentrations) for large cost. It would, therefore, violate WAC 1 73-340-360(5)(d)(vi).

GQ	Comment ID	Last Name
6.1.9	389	Glass

Comment

"Clean" backfill soils should be available at well below 20 ppm with no cost penalty. The CAP should specify a lower acceptable limit than 20 ppm unless a significant cost penalty can be demonstrated. Based on Ecology's natural background study, where the maximum surficial soil arsenic concentration was only 11.3 ppm (eliminating Point Defiance park samples near the Tacoma Smelter) and the median value was less than 4 ppm, soils at no more than 7 to 10 ppm maximum should be readily available. This will avoid problems of having replacement backfill soils almost equal to excavated soils (e.g., removing 22 ppm and replacing with 20 ppm) in contaminant concentrations. Ecology should require documentation of the metals content of any topsoils that include biosolids (e.g., "three-in-one" soils mixing soil, sawdust, and biosolids). Homeowners should have an option not to accept biosolids if that is their choice.

GQ	Comment ID	Last Name
6.1.10	11	Robison

Comment

Regarding "clean" fill dirt for yards - some persons may not consider biosolids to be clean, and I believe their concerns should be honored. The whole point of this exercise is to put people's fears to rest, not substitute new ones.

GQ	Comment ID	Last Name
6.1.10	118	Ryan

Comment

The specification for dirt used as clean backfill could specify a number less than just "not exceeding 20" to assure less risk of recontamination. Homeowners should be consulted if 3 in 1 topsoils containing biosolids are proposed for use as replacement soils as they may have real concerns about health risks.

GQ	Comment ID	Last Name
6.1.10	389	Glass

Comment

"Clean" backfill soils should be available at well below 20 ppm with no cost penalty. The CAP should specify a lower acceptable limit than 20 ppm unless a significant cost penalty can be demonstrated. Based on Ecology's natural background study, where the maximum surficial soil arsenic concentration was only 11.3 ppm (eliminating Point Defiance park samples near the Tacoma Smelter) and the median value was less than 4 ppm, soils at no more than 7 to 10 ppm maximum should be readily available. This will avoid problems of having replacement backfill soils almost equal to excavated soils (e.g., removing 22 ppm and replacing with 20 ppm) in contaminant concentrations. Ecology should require documentation of the metals content of any topsoils that include biosolids (e.g., "three-in-one" soils mixing soil, sawdust, and biosolids). Homeowners should have an option not to accept biosolids if that is their choice.

GQ	Comment ID	Last Name
6.1.11	13	Robison

Comment

PERIPHERAL AREA. I support further sampling of the properties to be remediated and the site-specific approach to cleanup. This of course must be done with the cooperation of the property owner, but I have some fears that people will balk at the process when face-to-face with it, despite all the reassurances they can be given. I am thinking now of the 10 homes to be cleaned up this summer. It would be very regrettable, if it occurs, and public education will play a key role in staving off such a contingency. I hope I am unduly anxious. Up until now we have been a long way from the "shovels" and I hope that after people have seen what the process involves - that it is not a long disruption at any one house - it would be less threatening.

GQ	Comment ID	Last Name
6.1.11	31	Robison

Comment

Owners will, I understand, be involved in the work done on their property. This is important. Maybe there should be a buyout option if contamination is so deep that shoring of a foundation is required.

GQ	Comment ID	Last Name
6.1.11	107	Public Meeting Commentor

Comment

What are the safeguards that will be undertaken to ensure that buried utilities, tanks, and plants are not damaged? Cracking a buried oil tank could result in thousands of gallons of oil contaminating the soil.

GQ	Comment ID	Last Name
6.1.11	108	Public Meeting Commentor

Comment

I'm a renter on property managed by a property management company. Who are you going to deal with, the renter, the owner, or the property management company?

GQ	Comment ID	Last Name
6.1.11	109	Public Meeting Commentor

Comment

How are vertical surfaces going to be addressed? What about going horizontal by the alleys or retaining walls behind houses?

GQ	Comment ID	Last Name
6.1.12	14	Robison

Comment

I like the idea of the "Disturbance Coordinator." No matter how smoothly the operation proceeds, people are going to feel much better if there is a real, visible person to whom they can turn with questions and concerns.

GQ	Comment ID	Last Name
6.1.13	57	Lowery

Comment

I am selling my property which is located within the CPM boundaries. Is there anything the new buyers should be informed of about the property?

GQ	Comment ID	Last Name
6.1.13	67	Newton

Comment

What will be the effect on property values during and after cleanup? If a piece of property does not need to be cleaned up, would it still be in a less than optimum area?

GQ	Comment ID	Last Name
6.1.13	99	Public Meeting Commentor

Comment

How is this going to affect property values if your site is contaminated and cleaned up? What if you are deemed not contaminated and not cleaned up?

GQ	Comment ID	Last Name
6.1.14	106	Public Meeting Commentor

Comment

What hazard is associated with muddy tap water resulting from work on the water mains upstream of a home tap? Are there measures to protect the water mains? What are the health effects of drinking water with high levels of arsenic? Can the soil around the water mains be tested? Can you put some sort of protective liner around the mains to prevent the water becoming contaminated with arsenic?

GQ	Comment ID	Last Name
6.1.15	100	Public Meeting Commentor

Comment

What has been done or will be done concerning Arsenic that is incorporated in the wood, concrete, and brick of homes that have been in the contaminated area a long time? How much contamination would be spread during renovation activities?

GQ	Comment ID	Last Name
6.1.15	101	Public Meeting Commentor

Comment

Is there any way to get building material tested if contamination is suspected (i.e., bricks that were manufactured from smelter material)?

GQ	Comment ID	Last Name
6.1.15	102	Public Meeting Commentor

Comment

When I moved into my house, I cleaned and powerwashed the brick and it changed color. How much contamination did I stir up?

GQ	Comment ID	Last Name
6.1.16	105	Public Meeting Commentor

Comment

Can poplar trees act as siphons taking up and concentrating the arsenic in their wood?

GQ	Comment ID	Last Name
6.1.17	283	Young R.S.

Comment

The Performance Monitoring Plans should include details concerning sampling and construction documentation. The plan should include testing of all media of concern, including soil, air, water, vegetative waste, food harvested in the area, sediment and dust. The report should be that carpets in homes are clean. We noted that the DCAP includes cleaning of the carpets in houses, however, it does not mention cleaning of heating ducts.

GQ	Comment ID	Last Name
6.1.18	117	Ryan

Comment

6.2.3; Interesting plan to clean crawl spaces! Who builds the "rat proof" door?

GQ	Comment ID	Last Name
6.1.18	328	Aldrich

Comment

There is no scientific justification for the requirement that "all maintenance areas not normally occupied must be sealed to prevent entry of animals...[using] a barrier sufficient to prevent entry by rats." This type of requirement would be unimplementable as it would be virtually impossible to prevent all animals such as rodents from entering maintenance areas and would provide no additional environmental protection.

GQ	Comment ID	Last Name
6.1.19	158	Aldrich

Comment

Section 6.2.3 Maintenance Areas Not Normally Occupied. pages 90-91 As discussed in Section E, Ecology estimated the potential for acute health effects based on outdated scientific assumptions and then, by using a series of conservative assumptions, adding a safety factor of 10, resulting in an unrealistically low remediation level for acute exposures of 200 ppm (actually below the remediation level for residential use in Ruston).

GQ	Comment ID	Last Name
6.1.20	258	Reninger

Comment

Existing structures with crawl spaces over contaminated soils need to have specific care regarding the proper installation of protective linings, presumably a heavy gauge plastic. Still, all seams should be well lapped and taped and sealed to adjoining foundation walls. Otherwise, the service worker will be subjected to both severe ingestion and skin contact with the contaminated soils.

GQ	Comment ID	Last Name
6.1.21	349	Soine

Comment

Section 6.2.4 (page 91) Independent Actions. The City developed independent interim actions for essential public projects on Marine View Drive and Legion Golf Course in close consultation with Ecology. The draft cleanup plan inappropriately defers acknowledgement of these actions to the future. After considerable effort and oversight, the City completed the agreed upon work and submitted a final independent remedial action report and request for a no further action letter to Ecology last December, as had been previously discussed with Ecology. It is important for Ecology to complete this process prior to the issuance of the final cleanup action plan. The City was assured that if these actions were carried out as planned, they would be incorporated into the cleanup plan. The City would appreciate Ecology's prompt issuance of the no further action letters for these projects and the incorporation of these actions as part of the final cleanup plan. The City is also concerned that without completion of this process future public park projects or roadwork such as the extension of Marine View Drive will be delayed because they will not have the benefit of accepted, responsible management approaches to dealing with existing contamination in the area.

GQ	Comment ID	Last Name
6.1.22	255	Reninger

Comment

Further we find that the Consolidation Alternative is consistent with the cleanup of arsenic contaminated soils performed by Snohomish County as an independent remedial action at the Denney Juvenile Justice Center/Denney Youth Center property located within the peripheral area. We note that the Draft Cleanup Action Plan addresses this site and our independent cleanup in section 6.2.4 on page 91. We suggest that the Final Cleanup Action Plan indicate that the cleanup at the DJJC site is consistent with and substantially equivalent to the cleanup actions proposed in the Final Plan and that no further action is required at the DJJC site. We note that the data presented in Exhibits 2 and 3 showing arsenic concentrations on a map of the peripheral area indicate that the DJJC site does not require farther cleanup under the standards in the proposed plan. The documentation that the County has supplied to Ecology regarding our clean-up, including but not limited to the Cleanup Actions Summary Report, Denney Youth Center dated May 26, 1998 prepared by AGI also supports a finding in the Final Cleanup Action Plan that the County's independent remedial action has accomplished a cleanup consistent with that proposed in the plan.

GQ	Comment ID	Last Name
6.1.23	62	Chase

Comment

The estimated cost of cleanup for my house is $5000. I contract with a cleanup landscaping company and pay them $8000 to do the cleanup and more. It would be more efficient to do both at one time.

GQ	Comment ID	Last Name
6.1.23	490	Public Meeting Commentor

Comment

Has a lawn in bad shape. It needs to be torn out and redone. What do I have to do to get a permit? Will someone come in and tear it up? Will I be compensated for the cost if I do the work? Should I do it now or should I wait? If I wait, will the money be gone?

GQ	Comment ID	Last Name
6.2.1	281	Young R.S.

Comment

We anticipate reviewing the Engineering Design Plans for the problem waste landfill (consolidation facility), and assume these plans will include construction plans and specifications as required under the Model Toxics Control Act (MTCA), WAC 173-340-400. Although we understand that a solid waste permit from the Snohomish Health District is not needed because of the MTCA provisions, we are still interested in reviewing the design for the consolidation facility to insure that it meets the technical requirements of the Washington State minimum Functional Standards for Solid Waste Handling. We envision the plans will include a thorough geotechnical investigation which will demonstrate that the design meets the requirements of a clay liner below the facility. Other requirements that must be addressed include the minimum number of four groundwater monitoring wells around the facility. In addition, the facility design must have had considered the potential for methane gas production.

GQ	Comment ID	Last Name
6.2.2	259	Reninger

Comment

A bottom liner or clay bedding for the Consolidation Alternative should be investigated to determine the additional marginal cost of this added protection for the community. Its significance versus cost ought to be reviewed.

GQ	Comment ID	Last Name
6.2.3	17	Robison

Comment

SMELTER FENCED AREA. The sooner we get the highly contaminated soils out of the area, the better. ASARCO owns the property. Could they not be ordered to remove those soils in the next construction season? There is no real question there of a 20 ppm arsenic level. Surely that action is a MUST at some point, and the court case would have little bearing on it. We know that material will have to go to Arlington, OR. A temporary cover might be needed for the depression until peripheral soils can be excavated to fill it. But at least it would be a visible step in the right direction, and those soils could not continue to pose a threat to ground and surface waters. People have waited long enough for some real "action."

GQ	Comment ID	Last Name
6.2.3	23	Robison

Comment

If the cleanup process is far enough along to fill the depression left by removing the highly contaminated soils with peripheral soils, that would be the preferred action. It would, I believe, save several million dollars over putting in clean soils. Certainly the "hole" cannot simply be left there for long. It would need at least a temporary cap, and that would be costly and not a solution in the long run.

GQ	Comment ID	Last Name
6.2.3	123	Ryan

Comment

Can there be some suggestion that if scheduling allows, cleanest peripheral soils should go in fenced area? It costs no more to truck 2900 ppm than to truck 29 ppm and the "cleanup" would certainly be better in the long run.

GQ	Comment ID	Last Name
6.2.3	331	Aldrich

Comment

The draft CAP calls for placement of the least contaminated soils in the consolidation facility. Placement of these soils under a cap in the fenced area provides no more protection than leaving them in place under grass cover. The difference in risk is so marginal as to be outweighed by remediation risk so that the cost is substantial and disproportionate to the benefit. In addition, the proposed staging implies that Ecology is not that concerned about the soils with arsenic concentrations above their estimated acute risk level that will be remediated later in the overall remediation schedule.

GQ	Comment ID	Last Name
6.2.3	397	Glass

Comment

Assuming that the cost per ton to transport and dispose of problem waste contaminated soils offsite (e.g., at the Roosevelt regional landfill) is unaffected by the contaminant concentrations, being determined by transport costs per ton and landfill tipping fees only, there is no cost penalty to requiring that excavated peripheral area soils being consolidated at the smelter fenced area be relatively low-concentration soils. This will reduce the total amount of contamination being left onsite under a long-term containment approach. It will avoid circumstances where soils marginally above 3,000 ppm arsenic are removed only to be replaced with peripheral soils at several thousand ppm arsenic. Additional timing and sequencing issues may need to be considered to integrate the smelter fenced area and peripheral area components of the CAP. Delaying backfill of excavation pits at the smelter fenced area, and deferring cleanup of highly-contaminated residential properties so that modestly-contaminated properties are addressed to provide consolidation soils, both have some obvious drawbacks. The principle of using least-contaminated peripheral soils as consolidation materials, however, should be met to the maximum extent practicable.

GQ	Comment ID	Last Name
6.2.4	119	Ryan

Comment

The disposal of soils deemed "hazardous wastes" and lesser concentrations always specifies Arlington and Roosevelt. There should be some indication of support for any less expensive site which meets requirements.

GQ	Comment ID	Last Name
6.2.4	384	Glass

Comment

The CAP and EIS discuss Arlington, OR and the Roosevelt landfill in eastern Washington as the disposal sites for hazardous waste and problem waste, respectively, to be removed from the Everett Smelter site. I understand these to be representative and acceptable disposal sites which can be used as a basis for comparative costs of cleanup alternatives. Other options for disposal sites that offer lower costs, but still meet objectives for protectiveness and compliance with ARARs, could be supported by the community. Hazardous wastes sent to a permitted RCRA TSD facility such as the Arlington, OR landfill require stabilization (i.e., with cement kiln dust, fly ash, or cement, plus additive compounds) prior to disposal (under EPA's RCRA "land ban" rules). I do not know if samples have been sent to the Arlington, OR TSD landfill operators for testing to determine whether or not successful stabilization can be achieved. Such tests might be required for several different types of materials from the smelter fenced area. It is possible that some "high end" materials (arsenic product or arsenic flue dusts) may be impossible to successfully stabilize. In that case, they are not allowed to be disposed of in the TSD landfill but must be sent elsewhere for metals recovery or other processing. The unit costs for materials sent to Arlington, OR depend on whether or not those materials can be stabilized and disposed of at the landfill. Thus, the costs in the CAP for cleanup actions related to hazardous wastes (mostly from the smelter fenced area) may be too low if they do not account for materials that cannot be successfully stabilized.

GQ	Comment ID	Last Name
6.2.5	159	Aldrich

Comment

Section 6.3 Soil Cleanup in the Former Arsenic Trioxide Processing Area. pages 92-94 See comments on Section 5.4 for a discussion of the appropriateness of an OCF for containment of soils with arsenic levels corresponding to Dangerous Waste. As noted in comments on Section 3.2, the definition of Dangerous Waste should be based on TCLP testing and not a statistical analysis of data. There is no environmental reason that all identifiable smelter debris, housing foundation material, road and driveway material, utility pipes, rubbish, vegetation and wood debris should be disposed offsite regardless of its arsenic concentration. The viability of keeping these materials within the fenced area should be addressed during remedial design.

GQ	Comment ID	Last Name
6.2.6	7	Ryan

Comment

Finally in regard to the ultimate use of the fenced area as driven by cleanup characteristics and discussed in the EIS the community interests lie clearly on the side of restoring the property to its original use as single family housing. Of course this would require a much more stringent cleanup of the fenced area than is currently proposed with little opportunity for increased soil consolidation which changes the grade and eliminates access. Multi-family use may provide slightly better control of recontamination than single family as proposed in the EIS but it is still residential usage with contamination of 3000 ppm below in depths where water mains would have to be installed and maintained. Our feeling is that the community would best be served by removal of the greatest amount possible and consolidation of the least contaminated peripheral soils.

GQ	Comment ID	Last Name
6.2.6	27	Robison

Comment

From the beginning the citizens have wanted their neighborhood restored to its single family status. It would be preferable to have the fenced area cleaned up enough to support at least some kind of residential use, such as condos. If that cannot be done we prefer not to have a fence, but instead to have those six acres covered with lawn that it keeps up.

GQ	Comment ID	Last Name
6.2.6	42	White

Comment

The DCAP proposes that soils with contaminants as high as 3000 ppm be left at the Smelter site. In fact, the DCAP is unclear as to whether levels even higher than 3000 ppm might be permissible, depending upon the results of TCLP testing. The DCAP, in essence, calls for the Smelter Site to be the dumping ground for lower level contaminants being removed from throughout north Everett. This decision necessitates the abandonment of the smelter site as a wasteland in the midst of our neighborhood. Ecology acknowledges this in one of the DCAP's more inappropriate sections which states "If no use has a planned construction start date within one year of closure, an aesthetically pleasing fence which meets the approval of citizens will be constructed." (p. 93) While we are grateful that the barbed wire will come down, we cannot agree that the Smelter Site can be left in a condition such that Ecology insists that it be fenced off. If the proposed Consolidation Facility is safe and will withstand storms and earthquakes for hundreds of years, why is it not safe for children to play on? Why must it be fenced off and sit as an eyesore within this residential area?

GQ	Comment ID	Last Name
6.2.6	260	Reninger

Comment

Future Land Use alternatives should probably limit structures to lightweight building components (wood frame or light gauge metal) of no more that two stories with wide footings to protect the cover membrane from abrasion/puncture.

GQ	Comment ID	Last Name
6.2.6	338	Soine

Comment

Leaving the site in a condition compatible with the neighborhood, preserving future land use options, and facilitating the ability to put the site back to productive use are essential elements of an acceptable final cleanup plan that have not been sufficiently addressed in the draft plan. Indeed, different land uses may require different responses and should be noted in the CAP/EIS.

GQ	Comment ID	Last Name
6.2.6	339	Soine

Comment

With cooperation from Ecology staff, the City believes it is still possible to document and incorporate the analysis that has been conducted to date and for this information to be included in the final CAP/EIS without delaying the cleanup process. Failure to do so will likely delay the cleanup since the proposed consolidation facility does not appear to be consistent with the current comprehensive plan designation for the site.

GQ	Comment ID	Last Name
6.2.6	340	Soine

Comment

The City is providing a summary of the land use plan changes that would be necessary to accommodate the range of land uses considered for this site (see Attachement A). We believe the land uses described in the Exhibit are consistent with the range of land uses discussed by the Land Use committee under the mediation. This exhibit describes the existing land use designations and the processes that would be needed to revise them. It provides a starting point for the land use analysis that needs to be incorporated into the final CAP/EIS to enable the City and Ecology to make their respective decisions. We request a commitment by Ecology to meet with us and to work together to ensure that the additional analysis needed and recommended land use actions will be included in the final CAP/EIS, coordinated with continued, timely review by our Planning Commission, as both Ecology and City had promised the public during the scoping process.

GQ	Comment ID	Last Name
6.2.7	333	Aldrich

Comment

Ecology, at page 93, "determines" that future uses of the Former Arsenic Trioxide Processing Area should be restricted to control by particular groups or compatible with certain described uses. Although Ecology has the authority to impose deed restrictions on future uses of the site where there are elevated levels of hazardous substances remaining on-site, there is no authority in MTCA for limiting those groups who may purchase or exert control over properties in the Former Arsenic Trioxide Processing Area, so long as any institutional controls and other ongoing requirements that Ecology may have the authority to impose are carried out by successors-in-interest.

GQ	Comment ID	Last Name
6.2.8	367	Glass

Comment

Future land use at smelter fenced area: The CAP and EIS should take note of the fact that future development of the smelter fenced area will largely be constrained by the decisions of the current property owner, ASARCO, subject to zoning and permit approvals of the City of Everett. Thus, development of any type will only occur if ASARCO agrees to pursue or allow such development, regardless of "compatibility" analyses. Nondevelopment of the site (with restricted community access to the property) is one option ASARCO could adopt. The CAP approach to remediation of the smelter fenced area, and the magnitude and extent of remaining contamination after remediation is completed, are appropriately recognized in the EIS (see section 4.6) as related to likely future land use decisions for the smelter fenced area.

GQ	Comment ID	Last Name
6.2.9	25	Robison

Comment

Street abandonment is an important issue. Access for residents and emergency vehicles is needed. Pilchuck Path needs to be dealt with in the EIS. The utility lines would be rerouted.

GQ	Comment ID	Last Name
6.2.9	122	Ryan

Comment

In the plan for the fenced area, there is no discussion of existing streets. Will these be vacated and the fenced area left as a smooth hill or will they be rebuilt? This is of great interest to immediate neighbors and in the long run for redevelopment.

GQ	Comment ID	Last Name
6.2.9	370	Glass

Comment

Street abandonments: The CAP and EIS discuss modest grade increases (up to 4 feet, with no impairment of existing views form adjacent residential properties) for the final cap elevations at the smelter fenced area, after consolidation of contaminated soils from the peripheral area. There is no discussion of abandonment of the existing streets within the smelter fenced area, although it might be inferred that street abandonments would occur. The EIS should discuss this as an additional potential impact (community access issues) of the proposed cleanup actions. I understand from discussions with the City of Everett that street abandonments require action of the city council, which would be an additional ARAR. There may also be requirements for rerouting of various buried utility lines that now go through the smelter fenced areas (e.g., along Pilchuck Path).

GQ	Comment ID	Last Name
6.2.10	18	Robison

Comment

INSTITUTIONAL CONTROLS. The citizens have long been suspicious of institutional controls as a really long-term answer to protectiveness from contamination left on site. I wish I could imagine a viable alternative, but I cannot. The City of Everett and the Snohomish Health District will be responsible for maintaining these controls, presumably, and it is hard to foresee what those entities will be a thousand years from now. I believe we will just have to accept these measures, because it is not possible to remove all of the contamination. The IC's delineated in the CAP would appear to be the best that can be devised. I am strongly supportive of an on-going Citizens Advisory Committee. Financial assurance for the implementation of all of the IC's is also very important. Without support money guaranteed into the future the controls could easily disappear. I like, too, the idea of stone markers that will not erode over time.

GQ	Comment ID	Last Name
6.2.10	42	White

Comment

The DCAP proposes that soils with contaminants as high as 3000 ppm be left at the Smelter site. In fact, the DCAP is unclear as to whether levels even higher than 3000 ppm might be permissible, depending upon the results of TCLP testing. The DCAP, in essence, calls for the Smelter Site to be the dumping ground for lower level contaminants being removed from throughout north Everett. This decision necessitates the abandonment of the smelter site as a wasteland in the midst of our neighborhood. Ecology acknowledges this in one of the DCAP's more inappropriate sections which states "If no use has a planned construction start date within one year of closure, an aesthetically pleasing fence which meets the approval of citizens will be constructed." (p. 93) While we are grateful that the barbed wire will come down, we cannot agree that the Smelter Site can be left in a condition such that Ecology insists that it be fenced off. If the proposed Consolidation Facility is safe and will withstand storms and earthquakes for hundreds of years, why is it not safe for children to play on? Why must it be fenced off and sit as an eyesore within this residential area?

GQ	Comment ID	Last Name
6.2.10	332	Aldrich

Comment

If Ecology has the funds in its budget and wishes to spend them on such expensive add-ons such as "granite monuments" to commemorate its cleanup and an "aesthetically pleasing fence," Asarco has no objection. However, it would not be appropriate to require any PLP to implement or pay for such items. They are not part of a health-based cleanup.

GQ	Comment ID	Last Name
6.3.1	26	Robison

Comment

Groundwater monitoring is of paramount importance, because of the proximity of the river and the salmon restoration efforts ahead. The deep groundwater already shows contamination and it will take a long time for it to cleanse.

GQ	Comment ID	Last Name
6.3.1	121	Ryan

Comment

These (cleanup) levels are assumed to be eventually compliant with ground and surface water. There is necessarily some time for self remediation after all soils are removed. The figures from EV4 (below the till) lead to questions about the complete effectiveness of till as the bottom layer which will prevent ground water problems. Plan should address contingent actions in case the water problem is not solved.

GQ	Comment ID	Last Name
6.3.1	386	Glass

Comment

The smelter demolition debris, residual arsenic product, and elevated contamination in soils in the smelter fenced area constitute a threat to ground water quality. Leaching tests confirm that arsenic in these materials has a high potential mobility. Infiltrating precipitation contacts these materials under present site conditions, and probably flows laterally when it encounters competent till. Recent investigations of the smelter fenced area are one potential source for observed ground water contamination. Cleanup actions at the smelter fenced area are designed, among other things, to address this threat to ground water quality. The containment actions for the consolidation area include a low permeability cap and an upgradient interceptor trench to isolate residually contaminated materials from ongoing contact with ground water. It is assumed that the existing till layer will serve as a low permeability barrier to downward movement of contaminants. It will take time for ground water quality to improve after remedial actions are completed at the smelter fenced area. An enhanced groundwater monitoring system is needed as part of the CAP.

GQ	Comment ID	Last Name
6.3.1	387	Glass

Comment

The water quality data for monitoring well EV-4B, one of only a few wells screened in the lower aquifer, are mentioned in the CAP. Well EV-4B is located just east of East marine View Drive near the northeast corner of the smelter fenced area. According to the RI Report well log, there is a 6-foot thick till layer above the screened interval at well EV-4B. Elevated arsenic concentrations are nonetheless reported for this monitoring well. This deserves more discussion than is currently presented in the CAP. It is possible that there are installation problems (e.g., poor surface seals or well casing problems) affecting data quality at this well. It is also possible that the monitoring results for this lower aquifer well are indicating some lack of effectiveness of the till layer as a barrier to downward contaminant migration. Since contamination will remain at the consolidation area for a very long time (the arsenic and metals will not significantly degrade or diminish over time), some degradation in the performance of the cap and interceptor trench over time may occur. The potential long-term pathways for contaminant movement (downward through the till, or laterally along the top of the till) should be considered as part of long-term design for the consolidation area. The CAP notes that evaluations of lowlands ground water quality issues will continue as part of future site investigations, separate from uplands cleanup actions. Once remedial actions at the proposed consolidation area are completed, it seems unlikely that they would be disrupted and then reinstalled to provide for further removal actions. Initial excavation and removal decisions for the smelter fenced area may thus become final decisions, regardless of the results of further investigations. A degree of conservatism in those initial decisions is therefore warranted, given uncertainties that apparently exist with respect to ground water transport issues.

GQ	Comment ID	Last Name
6.4.1	354	Soine

Comment

Water and Drainage Issues. The City previously commented on Ecology's enforcement order that we would need assurances that the water quality levels being established in the cleanup plan would not adversely affect the City's treatment facilities or subject the City to potential costs or liabilities, particularly with the pending ESA listing and Snohomish River TMDL. No such analysis or assurances appear to be provided in the DCAP/DEIS, and they are an essential component of any final cleanup plan. The cleanup plan needs to address this both for consistency with applicable laws (including consideration of the department's own proposals on water quality criteria), and to ensure coordination between Ecology's toxic cleanup and water quality programs. The City is concerned by the concentrations of surface water contamination reported (§§2.4.3 and 7.2.3). Also of concern are the concentrations of ground water contamination reported (§2.4.4 page 21) that it is possible that groundwater with elevated arsenic levels is migrating along the fill-till contact and draining into the Lowland Area. (Also, §2.4.5, page 22; §7.2.4 page 106). Research by City staff has found a correlation between rainfall and arsenic loading to the Everett WPCF. Studies at the Asarco smelter site has shown that the arsenic discharge is almost completely in the dissolved form and the loading is directly related to the duration of the rain event. The lead loading is mainly related to the sediment loading and is directly related to the intensity of the rain event. Both of these loadings to the combined sewers will need to be c6ntrolled during the cleanup phase. The main sources are: runoff due to rainfall, equipment cleanup, personnel showering, laundry, losses from trucks hauling contaminated soils, and fugitive emissions. Each of these can be controlled through adequate engineering and operation at the cleanup site. The Department of Ecology needs to incorporate specific institutional controls on the Department of Ecology's or its contractors' cleanup work. The City will assist in identifying specific measures in consultation with Ecology. The Department of Ecology is developing an interim approach for including arsenic limits in NPDES permits, which the City may find very difficult to meet if significant levels of arsenic are accepted from this site. Consequently, the City will need assurances that the surface water cleanup levels specified in section 4.1.4 are met via a monitoring program and that Everett citizens will not have to assume any financial burden associated with failure of the cleanup plan to achieve the surface water cleanup levels. Ecology should not put the citizens of Everett in the position of paying for a lack of coordination between two of its programs. The removal of arsenic in the wastewater treatment process is very costly.

GQ	Comment ID	Last Name
6.4.2	358	Soine

Comment

Section 5.3.2.13 On-Site Containment and Consolidation provide for a leachate collection system and ground water interceptor trench, respectively. However, there is no indication how the liquids collected will be treated or disposed. They may not be appropriate for the City of Everett combined sewer or acceptable to the City of Everett.

GQ	Comment ID	Last Name
6.4.2	359	Soine

Comment

DEIS (page A3-5) Speaks of groundwater collected by a trench in a containment or consolidation facility being discharged to a storm drainage outfall downgradient of the site. Is this intended to be a City of Everett storm drain? What contingency plan exists if this liquid proves to be unacceptable to the City of Everett? There is some consideration given at DEIS page A3-19 of this issue. DEIS (page A3-17) Assumes that surface water will be acceptable in the City of Everett storm sewer and wastewater treatment plant. The City of Everett wastewater treatment plant is not designed for the removal of this type of contamination. This liquid may become unacceptable at some point in the future as environmental regulations become stricter on the discharge of contaminates. DEIS (A3- 17) What would be an appropriate off-site treatment facility for the leachate that is collected?

GQ	Comment ID	Last Name
6.4.3	103	Public Meeting Commentor

Comment

What control measures are going to be taken during cleanup to prevent surface water contamination?

GQ	Comment ID	Last Name
6.4.3	110	Public Meeting Commentor

Comment

A cutoff trench is going to be installed above the FATPA. Would something similar be done to prevent surfacewater coming from an area that hasn't been cleaned up recontaminating an area that has already been cleaned up?

GQ	Comment ID	Last Name
6.5.1	357	Soine

Comment

Section 4.1 .5, 6.6 and 7.2.5 Storm Drain Sediment: The City currently composts and recycles storm drain sediments. The Snohomish Health District requires that these sediments meet MTCA Method A soils levels (Arsenic: 20 mg/Kg, Lead: 250 mg/Kg, Cadmium: 2 mg/Kg), despite the fact that the table was not designed for this purpose, and there is an explicit caution in the Ecology MTCA Rules about using these levels for other purposes. Storm drain sediments cleanup levels should reflect the standards currently imposed upon the City by the Snohomish Health District or there should be a mechanism to reimburse the City for any additional expenses incurred to dispose of the sediments in question if the MTCA cleanup levels are not met. Alternatively, the Snohomish Health District could adopt the State composting guidelines (Arsenic: 20 mg/Kg, Lead: 150 mg/Kg, Cadmium: 20 mg/Kg). These guidelines should then be used as the storm drain sediment cleanup levels. How will the monitoring of storm drain sediment be accomplished, i.e., by whom, and how will the costs be paid? If sediments exceeding cleanup levels are found, who will remove and dispose of these materials? What consideration has been given with respect to contamination levels in storm water and storm drain sediments that in themselves may be below the action level but may have an adverse impact on the City of Everett sewage system and/or discharges? (§4.1.4, §6.5, Performance monitoring §§7.2.3, 7.2.4 and 7.2.5, pages 105, 106) Unacceptable accumulations of heavy metals in the biosolids will be reached in the sewage treatment process and the City will be unable to continue with current disposal methods, i.e., the creation of fertilizer for sale and for its own use.

GQ	Comment ID	Last Name
6.5.2	357	Soine

Comment

Section 4.1 .5, 6.6 and 7.2.5 Storm Drain Sediment: The City currently composts and recycles storm drain sediments. The Snohomish Health District requires that these sediments meet MTCA Method A soils levels (Arsenic: 20 mg/Kg, Lead: 250 mg/Kg, Cadmium: 2 mg/Kg), despite the fact that the table was not designed for this purpose, and there is an explicit caution in the Ecology MTCA Rules about using these levels for other purposes. Storm drain sediments cleanup levels should reflect the standards currently imposed upon the City by the Snohomish Health District or there should be a mechanism to reimburse the City for any additional expenses incurred to dispose of the sediments in question if the MTCA cleanup levels are not met. Alternatively, the Snohomish Health District could adopt the State composting guidelines (Arsenic: 20 mg/Kg, Lead: 150 mg/Kg, Cadmium: 20 mg/Kg). These guidelines should then be used as the storm drain sediment cleanup levels. How will the monitoring of storm drain sediment be accomplished, i.e., by whom, and how will the costs be paid? If sediments exceeding cleanup levels are found, who will remove and dispose of these materials? What consideration has been given with respect to contamination levels in storm water and storm drain sediments that in themselves may be below the action level but may have an adverse impact on the City of Everett sewage system and/or discharges? (§4.1.4, §6.5, Performance monitoring §§7.2.3, 7.2.4 and 7.2.5, pages 105, 106) Unacceptable accumulations of heavy metals in the biosolids will be reached in the sewage treatment process and the City will be unable to continue with current disposal methods, i.e., the creation of fertilizer for sale and for its own use.

GQ	Comment ID	Last Name
6.6.1	18	Robison

Comment

INSTITUTIONAL CONTROLS. The citizens have long been suspicious of institutional controls as a really long-term answer to protectiveness from contamination left on site. I wish I could imagine a viable alternative, but I cannot. The City of Everett and the Snohomish Health District will be responsible for maintaining these controls, presumably, and it is hard to foresee what those entities will be a thousand years from now. I believe we will just have to accept these measures, because it is not possible to remove all of the contamination. The IC's delineated in the CAP would appear to be the best that can be devised. I am strongly supportive of an on-going Citizens Advisory Committee. Financial assurance for the implementation of all of the IC's is also very important. Without support money guaranteed into the future the controls could easily disappear. I like, too, the idea of stone markers that will not erode over time.

GQ	Comment ID	Last Name
6.6.1	160	Aldrich

Comment

Section 6.7 Institutional Controls. Asarco agrees with Ecology that a well-defined program of institutional controls involving reasonable costs and aimed at the protection of human health and the environment may be part of an overall remedy for the Everett Site. However, the institutional controls proposed by Ecology in the draft CAP are excessive and costly, and bear no rational relationship to what Ecology is obligated to ensure, protection of human health and the environment. For example, the permit overlay program will involve the cooperation of several public entities, hundreds of hours and potentially hundreds of thousands of dollars to develop and implement, while adding little in the way of protection to the community. To the extent that Ecology anticipates that the institutional controls program will be underwritten and/or implemented by any PLPs, Ecology is again reminded that Asarco is only one of several former owner/operators of the site. In addition, there are several public entities who, as current owners of properties within the site, fall squarely within the MTCA definition of "potentially liable party," with responsibilities for implementing the obligations of the draft CAP. RCW 70.105D.040.

GQ	Comment ID	Last Name
6.6.1	263	Taylor

Comment

This draft document represents the future of a residential neighborhood in Northeast Everett. The proposed cleanup actions will NOT "protect current and future generations from potential threats to human health and the environment" as stated by Stephen Alexander, DOE Toxics Cleanup Program, January 26, 1999.

GQ	Comment ID	Last Name
6.6.1	287	Valeriano

Comment

While we applaud Ecology in taking this next step in developing a cleanup plan, we are concerned that it does not meet some of the requirements in MTCA. According to MTCA, a cleanup must be permanent to the maximum extent practicable and this is really what the Northeast Everett community deserves. This cleanup action plan falls far short of permanent. It leaves a substantial amount of contamination for the community to live with and relies too heavily on institutional controls.

GQ	Comment ID	Last Name
6.6.1	381	Glass

Comment

Permanent remedies for soil contamination with arsenic and other metals, as that term is defined in MTCA, are very difficult if not impossible to achieve. From the point of view of community residents, however, excavation and replacement of contaminated soils with transport of contaminated soils out of the community for ultimate disposal achieves permanence as a practical matter for their properties (see page 72 et seq.). The proposed cleanup actions, considering practicability and protectiveness, combine soil excavation and removal with on-property containment actions. An extensive set of institutional controls is proposed for long-term community protection from residual site contamination. Those institutional controls are an essential component of the overall protectiveness of the selected remedy for the site (given its “impermanence”); they need to be effectively implemented and funded. A decision not to remove contaminated soils as part of this cleanup action is not really a permanent no action decision; it is more appropriately viewed as a deferred action or an active, long-term management decision. Institutional control programs will not be perfect; some “error rate” will be associated with them, representing errors and potential exposures that would not occur if contaminated soils had been removed from the community (the more “permanent” solution). Considering how long arsenic will remain in community soils, it is also worth considering how long institutional controls can be made effective at a large number of properties including hundreds of residential parcels. If they weaken or disappear over time, then a long-term management and deferral of action decision could be changed into a de facto no action decision. Ecology should provide some minimum specifications for the resampling program within the CAP, lest de minimis sampling programs be considered which would not be useful in monitoring long-term community protectiveness. During the MTCA PAC process, the point was raised and emphasized (by Rod Brown, among others) that if institutional controls are to be used as an element of cleanup actions, they should be subject to the same standards for demonstrating long-term effectiveness as any engineering measures would be. Periodic resampling of surficial soils, to document that they remain below applicable cleanup standards, should be part of that demonstration for the Everett Smelter site, especially given the large number of activities that potentially disturb residential property soils.

GQ	Comment ID	Last Name
6.6.2	160	Aldrich

Comment

Section 6.7 Institutional Controls. Asarco agrees with Ecology that a well-defined program of institutional controls involving reasonable costs and aimed at the protection of human health and the environment may be part of an overall remedy for the Everett Site. However, the institutional controls proposed by Ecology in the draft CAP are excessive and costly, and bear no rational relationship to what Ecology is obligated to ensure, protection of human health and the environment. For example, the permit overlay program will involve the cooperation of several public entities, hundreds of hours and potentially hundreds of thousands of dollars to develop and implement, while adding little in the way of protection to the community. To the extent that Ecology anticipates that the institutional controls program will be underwritten and/or implemented by any PLPs, Ecology is again reminded that Asarco is only one of several former owner/operators of the site. In addition, there are several public entities who, as current owners of properties within the site, fall squarely within the MTCA definition of "potentially liable party," with responsibilities for implementing the obligations of the draft CAP. RCW 70.105D.040.

GQ	Comment ID	Last Name
6.6.3	18	Robison

Comment

INSTITUTIONAL CONTROLS. The citizens have long been suspicious of institutional controls as a really long-term answer to protectiveness from contamination left on site. I wish I could imagine a viable alternative, but I cannot. The City of Everett and the Snohomish Health District will be responsible for maintaining these controls, presumably, and it is hard to foresee what those entities will be a thousand years from now. I believe we will just have to accept these measures, because it is not possible to remove all of the contamination. The IC's delineated in the CAP would appear to be the best that can be devised. I am strongly supportive of an on-going Citizens Advisory Committee. Financial assurance for the implementation of all of the IC's is also very important. Without support money guaranteed into the future the controls could easily disappear. I like, too, the idea of stone markers that will not erode over time.

GQ	Comment ID	Last Name
6.6.3	19	Robison

Comment

We need more clarification of the institutional controls. The details need to be spelled out so there will be more certainty as time goes on. The citizens should be involved in the process of drafting these details.

GQ	Comment ID	Last Name
6.6.3	124	Ryan

Comment

"Institutional Controls" covers the field but generally lack specificity.

GQ	Comment ID	Last Name
6.6.3	342	Soine

Comment

Section 6.7 (pages 88, 90, 95) Institutional Controls. The document assumes that the City will assume the responsibility, cost and potential liability for a substantial effort in implementing institutional controls. The City has consistently stated its willingness to work cooperatively with Ecology to develop a program of institutional controls that allocates responsibilites among Ecology, the Snohomish Health District, the City, and other necessary parties, with appropriate indemnity and financial assurances. However, the City, Ecology and the Snohomish Health District have not yet developed a cooperative program for institutional controls and this needs to be accomplished before the issuance of a final cleanup action plan.

GQ	Comment ID	Last Name
6.6.3	343	Soine

Comment

There are no agreements, tentative agreements, memorandum of understanding, or detailed discussions between the City of Everett and any other party regarding the City of Everett implementing, managing or participating in any institutional control. Any such agreement will require approval by the Everett City Council with appropriate indemnity agreements and financial assurances. A mechanism for the implementation of institutional controls must be developed. The city continues in its willingness to work with Ecology and the Snohomish Health District to meet this objective, but the final cleanup plan cannot simply assert these commitments and institutional controls without first working out an acceptable plan with the agencies Ecology is looking to for assistance. At a minimum, a schedule and process of resolving these issues must be established and agreed. The City does not want to be placed in the untenable position of delaying the cleanup.

GQ	Comment ID	Last Name
6.6.4	98	Public Meeting Commentor

Comment

Are the currently mapped cleanup areas set in stone and therefore implementation of the institutional controls?

GQ	Comment ID	Last Name
6.6.4	344	Soine

Comment

Are differing institutional controls contemplated for different areas of the CPM area?

GQ	Comment ID	Last Name
6.6.5	125	Ryan

Comment

I understand the "Deed Covenant" section to apply only to ASARCO and not to community residents. Is this correct? If so, I approve.

GQ	Comment ID	Last Name
6.6.5	402	Glass

Comment

ASARCO now owns a number of residential properties south of the smelter fenced area. Has Ecology considered the possibility that ASARCO, as property owner, would refuse access for sampling and/or refuse soil cleanup actions? Would Ecology use deed restrictions in that event to prevent continued rental of those properties?

GQ	Comment ID	Last Name
6.6.6	90	Public Meeting Commentor

Comment

What are the apprehensions that the city is going to have concerning citizens moving contaminated soil in their yards?

GQ	Comment ID	Last Name
6.6.6	91	Public Meeting Commentor

Comment

Is the city going to deny building permits to citizens even if they follow the requirements to protect public health?

GQ	Comment ID	Last Name
6.6.6	345	Soine

Comment

Section 6.7.2 Permit Overlay. There are no agreements between the Department of Ecology, Snohomish Health District and the City of Everett for the planning, implementation, management or participation in a system of permit overlays. This will require approval by the Everett City council with appropriate indemnity agreements and financial assurances. A specific procedure acceptable to the City for future permit review should be identified in the final EIS. The City stands ready to work cooperatively with the Department of Ecology to define a specific implementation process for the permit overlay control.

GQ	Comment ID	Last Name
6.6.7	346	Soine

Comment

It should be noted that some activities in the subject area might not require City permits. How would the institutional controls be implemented for these activities? How are specific requirements regarding limitations/requirement for development or site modification activities going to be defined? What about SEPA exempt activities? What agency is going to be responsible to see that the institutional controls are implemented during future land use activities?

GQ	Comment ID	Last Name
6.6.7	347	Soine

Comment

Section 6.7.2 Soil Sampling. The DCAP assumes that sampling will be done during redevelopment of properties (page 96). However, there is no mechanism for such sampling. Likewise there is no program to assist residents in future sampling when they do small projects on their property. There is no program for maintenance and utility work sampling or confirmation sampling. The Department of Ecology should develop a program to facilitate these sampling requirements, including sampling plans and methodology. There is no statement as to which agency will supervise the compliance with any sampling requirement, i.e., the Snohomish Health District, Department of Labor and Industries, Ecology or the City of Everett. This section implies that the City of Everett will be responsible for compliance through its permitting authority. There is no agreement for this. Any such agreement would require City Council approval with appropriate indemnities and financial assurances.

GQ	Comment ID	Last Name
6.6.8	346	Soine

Comment

It should be noted that some activities in the subject area might not require City permits. How would the institutional controls be implemented for these activities? How are specific requirements regarding limitations/requirement for development or site modification activities going to be defined? What about SEPA exempt activities? What agency is going to be responsible to see that the institutional controls are implemented during future land use activities?

GQ	Comment ID	Last Name
6.6.9	33	Enderlein

Comment

We were gratified to see provisions for a long-term worker protection program to inform employers of required health and safety measures.

GQ	Comment ID	Last Name
6.6.9	350	Soine

Comment

Section 6.7.4 Worker Protection Program. The DCAP proposes a study program and an informational program. Will this information program include providing any education/training and/or protective equipment required by the Washington Department of Labor and Industries and other government agencies? If not, what organization will be responsible f6r this? There is no provision for the mitigation measures set forth in the DEIS 4.5.2.5 page A4-26), e.g., protective clothing. There is no provision regarding any necessity for sampling to determine the degree of worker protection. There is no provision for the financial consequences to employers and property owners in providing this.

GQ	Comment ID	Last Name
6.6.10	282	Young R.S.

Comment

The Health Safety Plan should address who is in charge of safety at this site. The Health and Safety Plan should include a section outlining organizational responsibilities during cleanup. However, the plan should also address non-cleanup related work on the site as well. The Washington State Department of Labor and Industries (L&I) asked that a site-wide safety and health program be established. It is not clear if the worker protection program described in section 6.7.4 of the DCAP, under the Institutional Controls, satisfies the request by L&I. As we have stated before, the Health District will attempt to inform employees and employers of the health and safety guidelines issued by L&I. We will help collect air sampling data, but we do not intend to issue safety equipment, or take responsibility for the research or other statutory requirements deemed necessary by L&I.

GQ	Comment ID	Last Name
6.6.11	35	Enderlein

Comment

Our last comment concerns the discussion of offsite slag in section 2.4.2. It is likely that there will be numerous instances in which N.W. Everett residents will encounter slag deposits upon their property. In order to assure that such materials are properly disposed of, there must be a program put in place to afford such persons the opportunity to utilize one of the soil and other contaminated material disposal programs. Perhaps the qualification for use of such program would be a chemical analysis, which confirms that such materials are similar to those existing upon the site. An informal "separate action" process could be utilized to avoid penalizing persons discovering such materials and searching for a way to accomplish lawful disposal.

GQ	Comment ID	Last Name
6.6.11	94	Public Meeting Commentor

Comment

Where does the soil in the "barrel program" go? Is it kept on site or is it sent somewhere? Will each barrel be tested?

GQ	Comment ID	Last Name
6.6.11	351	Soine

Comment

Sections 6.7.5& 6.7.6 Soil Disposal Program. The City previously commented on Ecology's enforcement order establishing the expanded soil disposal program. There is no mention in this section that the program applies to public entities such as the City and PUD for utility and infrastructure projects. This needs to be reconfirmed in the CAP. In addition, some emergency utility projects may generate soil volumes that exceed what is practical to put into barrels. The program needs to be able to accept soils delivered in dump trucks as well. Who is then responsible for transferring a dump truck load of soil into 30+ barrels?

GQ	Comment ID	Last Name
6.6.12	32	Enderlein

Comment

In its utility relocation project, the Public Utility District No. 1 of Snohomish County "generated" a moderate quantity of soils exceeding MTCA cleanup levels from pole excavations. The District also discovered that much of the vegetation removed to accommodate new line construction, such as branches from tree trimming, also contained arsenic at levels exceeding MTCA. ASARCO refused to take or dispose of the materials, and the District was forced to obtain its own contractor for their lawful disposal. We recommend the CAP expand on the scope in section 2.4 and address the extent of contamination associated with vegetation or indicate how this will be addressed in the future. The District has already commented on earlier draft "Large Soil Disposal Management Program" and will not repeat all of its comments here, except to say that the information in sections 6.7.5 and 6.7.6 appears to provide the outline of a viable and common-sense approach. We would suggest, however, that in both sections the scope become broadened to include soils and other materials, including slag, vegetation and other debris, which exceed MTCA cleanup levels for the smelter contaminants of concern.

GQ	Comment ID	Last Name
6.6.12	35	Enderlein

Comment

Our last comment concerns the discussion of offsite slag in section 2.4.2. It is likely that there will be numerous instances in which N.W. Everett residents will encounter slag deposits upon their property. In order to assure that such materials are properly disposed of, there must be a program put in place to afford such persons the opportunity to utilize one of the soil and other contaminated material disposal programs. Perhaps the qualification for use of such program would be a chemical analysis, which confirms that such materials are similar to those existing upon the site. An informal "separate action" process could be utilized to avoid penalizing persons discovering such materials and searching for a way to accomplish lawful disposal.

GQ	Comment ID	Last Name
6.6.13	34	Enderlein

Comment

As a part of Section 6.7, we would suggest the addition of a soil testing program to provide information to employers, workers, and homeowners planning soil excavation and vegetation removal (including tree trimming and removal) projects to be undertaken within the study area. The program should provide the means for gathering information on an interim basis until all required cleanup studies and work have been completed, and afterward as necessary and appropriate if all of the data desirable to assure worker safety and proper disposal practices for a specific project are not available.

GQ	Comment ID	Last Name
6.6.14	261	Reninger

Comment

Transportation concerns that should be addressed include; truck wheel wash, street/gutter and sidewalk clean up, covered truckloads and most of all trucker education of grade school pedestrian routes and schedules. Perhaps an education process through the grade schools should occur at the start of each school year and again in April throughout the years of clean up construction activities.

GQ	Comment ID	Last Name
6.6.15	3	Ryan

Comment

The long term institutional controls require resampling at remediated properties. This is a good idea but currently does not define how many samples, where in yard, how deep, etc. Are you assuming the same plan as cleanup or something less costly? How will properties be chosen? Same ones at 5, 10, 15 years?

GQ	Comment ID	Last Name
6.6.15	88	Langabeer

Comment

It is particularly important that long-term monitoring is assured.

GQ	Comment ID	Last Name
6.6.15	126	Ryan

Comment

The effectiveness evaluation section should be much more specific. "Selective" soil resampling does not define scope, range or a true reevaluation of cleanup effectiveness.

GQ	Comment ID	Last Name
6.6.15	284	Young R.S.

Comment

We look forward to reviewing, or helping in the development of, the Confirmation Monitoring Plans which will include more detail concerning quality control sampling, operations and maintenance and institutional controls. This plan will be a valuable tool for us in the future when trying to evaluate the successfulness of the cleanup, or evaluating a breach in containment. The plan should have provisions for the handling of material found to be contaminated in a post cleanup situation. The plan should include details on how the sediment will be dewatered, stored and tested. Details are also still needed about street cleaning methods and frequency. In addition, it may be a good idea to develop contingency plans for surface water protection before non-compliance in monitoring is reported.

GQ	Comment ID	Last Name
6.6.15	289	Valeriano

Comment

Under the plan a significant amount of contamination may be left below 2 feet, which will have to be monitored into the future. The current plan for institutional controls is not clear as to what will happen if there are problems found with monitoring and it appears as if the only check on whether they are working is the 5 year periodic review. We are concerned with relying on the 5 year review mechanism, because we do not think they are occurring. We are further concerned that dwindling resources at Ecology and fewer staff will make this review difficult every 5 years.

GQ	Comment ID	Last Name
6.6.15	380	Glass

Comment

I also support the periodic monitoring of the long-term effectiveness of on-property containment of residual soil contamination, through repeated sampling of “selected” surficial soils for possible recontamination.

GQ	Comment ID	Last Name
6.6.15	381	Glass

Comment

Permanent remedies for soil contamination with arsenic and other metals, as that term is defined in MTCA, are very difficult if not impossible to achieve. From the point of view of community residents, however, excavation and replacement of contaminated soils with transport of contaminated soils out of the community for ultimate disposal achieves permanence as a practical matter for their properties (see page 72 et seq.). The proposed cleanup actions, considering practicability and protectiveness, combine soil excavation and removal with on-property containment actions. An extensive set of institutional controls is proposed for long-term community protection from residual site contamination. Those institutional controls are an essential component of the overall protectiveness of the selected remedy for the site (given its “impermanence”); they need to be effectively implemented and funded. A decision not to remove contaminated soils as part of this cleanup action is not really a permanent no action decision; it is more appropriately viewed as a deferred action or an active, long-term management decision. Institutional control programs will not be perfect; some “error rate” will be associated with them, representing errors and potential exposures that would not occur if contaminated soils had been removed from the community (the more “permanent” solution). Considering how long arsenic will remain in community soils, it is also worth considering how long institutional controls can be made effective at a large number of properties including hundreds of residential parcels. If they weaken or disappear over time, then a long-term management and deferral of action decision could be changed into a de facto no action decision. Ecology should provide some minimum specifications for the resampling program within the CAP, lest de minimis sampling programs be considered which would not be useful in monitoring long-term community protectiveness. During the MTCA PAC process, the point was raised and emphasized (by Rod Brown, among others) that if institutional controls are to be used as an element of cleanup actions, they should be subject to the same standards for demonstrating long-term effectiveness as any engineering measures would be. Periodic resampling of surficial soils, to document that they remain below applicable cleanup standards, should be part of that demonstration for the Everett Smelter site, especially given the large number of activities that potentially disturb residential property soils.

GQ	Comment ID	Last Name
6.6.16	80	Smith

Comment

We need followup and an active citizen's advisory committee.

GQ	Comment ID	Last Name
6.6.16	352	Soine

Comment

Section 6.7.l 1 Citizen's Advisorv Committee Progam. There is no discussion of the composition of the Citizen's Advisory Committee or the inclusion of local government agencies and utilities. The selection of the committee is not discussed, nor are there provisions for its governance or support. There should be provision for its implementation.

GQ	Comment ID	Last Name
6.6.16	379	Glass

Comment

I support Ecology's proposal to have a Citizen's Advisory Committee review overall site cleanup actions, including institutional controls, on a continuing basis and make recommendations to Ecology for changes to improve effectiveness

GQ	Comment ID	Last Name
6.6.17	92	Public Meeting Commentor

Comment

Who would bear financial responsibility for disposal of all of the contaminated soil? (referring to the large and small volume soil disposal programs outlined in the CAP).

GQ	Comment ID	Last Name
6.6.17	93	Public Meeting Commentor

Comment

I am aware of the special equipment (tyvek, runoff control, etc.) that would be required when working in the contaminated areas. Would Ecology bear the financial responsibility for these extra costs?

GQ	Comment ID	Last Name
6.6.17	127	Ryan

Comment

The financial assurances section assumes only that ASARCO will be doing the complete cleanup. There are other possibilities we hope not to have to consider them, but they are possible, and the assurances will be just as necessary.

GQ	Comment ID	Last Name
6.6.17	256	Reninger

Comment

Over time, homes and businesses in the ESS area will be remodeled, demolished and properties redeveloped. The same is true for streets, driveways, alleys and sidewalks. As these actions occur, the cleanup plan needs to address the additional costs that a property owner would incur above and beyond that for normal construction activities. Essentially, the property owner should not bear these additional expenses. The potentially liable party needs to bear the additional cost burdens for dealing with and disposing of soil greater than 20 ppm arsenic for any and all redevelopment within the ESS

GQ	Comment ID	Last Name
6.6.18	353	Soine

Comment

Section 6.7.14 Financial Assurances. There is no provision for interim provision of funding for institutional controls prior to such time as ASARCO agrees or is ordered to make such payments and assurances.

GQ	Comment ID	Last Name
7.1.1	60	Lowery

Comment

Where exactly are the contaminated areas?

GQ	Comment ID	Last Name
7.1.1	64	Enberg

Comment
We would like to have our soil tested. Will this happen automatically or do we need to request it?

GQ	Comment ID	Last Name
7.1.1	66	Newton

Comment
Will all lots be tested, even at the edges of the contaminated area?

GQ	Comment ID	Last Name
7.1.1	95	Public Meeting Commentor

Comment
Do you have plans for testing all of the peripheral sites? How do you know which properties are contaminated and which ones aren't?

GQ	Comment ID	Last Name
7.1.1	96	Public Meeting Commentor

Comment
We were the first ones tested and we are heavily contaminated. Are you going to test our neighbors' houses?

GQ	Comment ID	Last Name
7.1.1	207	Brown

Comment
I'd like to know if our area (2605 16th) has any contamination. We used to have gardens in this area.

GQ	Comment ID	Last Name
7.1.1	211	Hubert

Comment
I am an 83 year old widow living alone at 1115 East Marine view Drive, Everett. I would not be able to pay for soil testing but if you feel its necessary its OK. I feel we are farther away from the contaminated soil but see we are included on the list.

GQ	Comment ID	Last Name
7.1.2	58	Lowery

Comment
Is the Legion Park golf course contaminated?

GQ	Comment ID	Last Name
7.1.2	68	Newton

Comment

Why did you enlarge the contaminated area to include the golf course after they spent a large amount of money to re-do it?

GQ	Comment ID	Last Name
7.1.3	1	Ryan

Comment

As has been communicated repeatedly, the residents feel the need to have the boundary more reasonably defined as soon as possible. Consideration must be given to developing a reasonable plan to address this need.

GQ	Comment ID	Last Name
7.1.3	12	Robison

Comment

I would like to see soil sampling beyond the Community Protection Measures boundary to find out just how far out contamination goes. It would be regrettable to have homeowners find out years from now that their soils are unacceptable, when all along they thought they were beyond any area of concern. What recourse would they have?

GQ	Comment ID	Last Name
7.1.3	167	Aldrich

Comment

Section 7.2.2 Setting the Community Protection Measures Boundary. page 105; A critical problem with the Draft CAP is that because the cleanup level for arsenic is based on background concentrations, it will be very difficult to establish a final site boundary. Rather than determining the boundary of the site, the draft CAP sets an open-ended test program to find additional areas requiring remediation. page 105; This is apparently based on the assumption that any time an arsenic level exceeds 20 ppm, the source of arsenic must be the former Everett Smelter. If other sources of arsenic exist within the Everett urban area, which they clearly do, it may not be possible to ever define the site boundary by applying a decision rule based on the background concentration of 20 ppm. The end result, in effect, may be that the site has infinite boundaries.

GQ	Comment ID	Last Name
7.1.3	382	Glass

Comment

See CAP section 7.2.2, Site Boundary Study: The CAP states that a boundary study will be performed based on transects as discussed in the mediation Technical Work Group workbook on alternatives. A detailed study protocol is to be developed as part of a compliance monitoring plan. The principle for any boundary study should be the collection of adequate confirmatory negative evidence that significant contamination does not occur beyond the site boundary. Recent results from soil sampling on Maury Island and at University Place, some 5 to 7 miles from the former Tacoma Smelter site, are instructive with respect to boundary issues. Soil arsenic concentrations at both locations exceed the 230 ppm cleanup action level for the Ruston/North Tacoma Smelter superfund site, despite their distance from the current site boundary. The spatial coverage of any boundary study should extend well beyond one or two properties past the current boundary to provide adequate information. Spatial heterogeneity in soil arsenic concentrations, especially given property-specific histories of soil disturbing activities, needs to be recognized. One or two properties that are below cleanup standards is an insufficient basis to define a boundary.

GQ	Comment ID	Last Name
7.1.4	128	Ryan

Comment

The testing of soil samples specifies using test with detection limit of <18 ppm. Does <18 default to 18 for averaging? Could a test to lower limits be used economically? This section needs to be more specific.

GQ	Comment ID	Last Name
7.1.4	162	Aldrich

Comment

Section 7.2.1.1 Peripheral Area. pages 102-104; In order to implement the selected cleanup levels the draft CAP proposed that the residential areas be divided into "decision units" of 4,000 square feet or less. Samples will be collected from eight depth intervals at ten locations within each decision unit. Each sample will be analyzed for arsenic, and a two-part decision rule will be applied to the results. If the average concentration from the 10 samples from a depth interval exceeds 20 ppm arsenic or if the maximum concentration exceeds 40 ppm, then soil will be removed from the entire decision unit to that depth interval.
The purpose of the performance sampling is to identify an area of soil, defined as the decision unit, where arsenic concentrations are sufficiently distinct from background to represent a risk to local residents, the potential receptors. The draft CAP approach requires a large number of sample analyses and, as a result, will be expensive to implement. In order to identify areas where arsenic concentrations in soil exceed background, a large number of discrete sample concentrations is not required unless small, localized areas of higher arsenic concentrations are expected to be present. In peripheral areas, the available soil data show that arsenic concentrations generally decrease with distance from the smelter, and within individual properties, soil arsenic concentrations vary over a relatively narrow range of values. Given these site conditions, composite samples will be as effective as a large number of discrete samples in identifying the decision units where the arsenic concentration exceeds the action level.

GQ	Comment ID	Last Name
7.1.4	163	Aldrich

Comment

Section 7.2.1.1 Peripheral Area. pages 102-104; Analysis of discrete samples adds additional expense but will only rarely result in a decision to remove soil. In areas where the actual arsenic concentrations are much higher than the cleanup action level, the average concentration will always trigger soil removal. In areas where the actual arsenic concentrations are similar to background (e.g., less than 40 ppm), the maximum concentration may result in additional decisions to remove soil, but the average concentration will still be more likely to trigger the cleanup action. Therefore, the effectiveness gained by analyzing a large number of discrete samples is minimal and only provides a reduction in decision errors at concentrations within the range of background concentrations measured in Puget Sound soils.

GQ	Comment ID	Last Name
7.1.4	165	Aldrich

Comment

Section 7.2.1.1 Peripheral Area. pages 102-104; In calculating the average concentration of 10 samples described in Ecology's proposed approach, the draft CAP does not specify what value will be used for samples with concentrations below laboratory method detection limits.

GQ	Comment ID	Last Name
7.1.4	390	Glass

Comment

The decision rules for soil excavation and replacement at residential properties indicate that decisions will be made for each decision unit based on data for that decision unit only. Thus, the property-wide averaging rule used at Ruston/North Tacoma will not apply. To the extent possible, the boundaries for defining decision units should incorporate available information on the history of soil disturbance at a property (such information as can be reasonably obtained from owner/occupants as site-specific sampling and remediation plans are developed). Matching DU boundaries to site history can reduce errors in which portions of contaminated areas are left onsite as a result of simpler decision rules (DU-based, all-or-none excavations).

GQ	Comment ID	Last Name
7.1.4	391	Glass

Comment

The CAP should incorporate the idea of allowing property owners to designate a few high-use, high potential exposure areas (e.g., gardens, play area) for separate sampling and remediation actions.

GQ	Comment ID	Last Name
7.1.4	392	Glass

Comment

Soil sampling at residential properties should incorporate the idea of variable sampling densities for demonstrating compliance with cleanup levels and remediation levels. At properties closer to the former smelter, where contamination levels may be much higher than at more distant properties, the consequences of missing contamination are greater; for example, acute threats are much more of concern. This approach could save substantially on sampling and analysis costs compared to a "one size fits all" approach. For some properties accessible soil areas may be quite limited. A minimum number of samples, plus maximum density of sampling, could be used at such properties to avoid excessive sampling (i.e., to adjust from a fixed sample count). It may also be reasonable to define only a single DU (plus any owner-option targeted areas) for such properties, rather than force division of a small area into two separate DUs.

GQ	Comment ID	Last Name
7.1.4	393	Glass

Comment

To avoid artifacts, soil samples should not be collected within a few feet of CCA treated wood, painted buildings, or gravel alleys or driveways. The effects of such extraneous possible sources for contaminants such as arsenic appear to be limited spatially; use of exclusion zones will minimize their potential confounding effects.

GQ	Comment ID	Last Name
7.1.4	394	Glass

Comment

If the analytical detection limit (or quantification limit) for soil arsenic samples is as high as <18 ppm, the calculation of an average concentration given some not-detected results will become an issue. Use of a simple one-half the detection limit approach is likely to bias the results low for many cases (consider the simple conceptual model of a steady decrease in contaminant levels with increasing distance). Note that MTCA statistical guidance does not favor use of half the detection limit for estimating an average. The number of samples will likely be too small for more sophisticated censored data evaluation approaches such as maximum likelihood estimates or regression-based approaches. A lower detection limit should be used if practicable; alternatively, the initial statistical calculation should be based on using the high detection limit, not on half the detection limit, with an option for better analyses (lower LLD) of archived sample materials and recalculation of average in case of initial failure.

GQ	Comment ID	Last Name
7.1.4	396	Glass

Comment

The initial soil sampling and analysis study at 20 residential properties included evaluation of the potential differences in soil contamination levels for 0-2 inch versus 0-6 inch sampling intervals. Those differences appeared to be relatively small. Ecology should not generalize this result to non-residential properties, especially relatively undisturbed properties, without further confirmational sampling. Residential properties have probably had substantial soil disturbance that has affected the vertical depth profile for smelter-related contaminants. Studies of smelter-related metals in undisturbed soils (e.g., research studies on Maury Island) have often shown a pronounced decrease in contaminant concentrations below the top few inches (e.g., below 0-2 inches). Sampling too deep an initial soil depth interval in those circumstances would dilute the reported concentration to below true surficial soil levels. Since potential human exposures and contaminant mobility are most affected by near-surface soils this is an issue for appropriate sampling protocols and cleanup decisions.

GQ	Comment ID	Last Name
7.1.4	403	Glass

Comment

The Draft CAP notes that use of a simple arithmetic average rather than a UCL for the average will reduce false positive error rates, avoiding cleanup actions at properties that are already clean (see page 111). It is equally true, of course, that this will increase false negative error rates (there is no free lunch in statistics!), in which contaminated properties will not be remediated. The consequences may be considered acceptable by Ecology and the community as long as the degree of missed contamination is minor and the consequences of a false negative outcome are limited. But the decrease in one type of error should be recognized as leading to an increase in the other type of error. It should be recognized that the extent of missed contamination and the consequences of false negative errors will increase as soil sampling is decreased; this should be considered by Ecology in developing sampling plans.

GQ	Comment ID	Last Name
7.1.5	45	Aldrich

Comment

The proposed 20 ppm arsenic cleanup level and corresponding sampling program for residential soils are inappropriately conservative and do not consider the potential for other urban sources of arsenic to influence residential soil concentrations.

GQ	Comment ID	Last Name
7.1.5	50	Aldrich

Comment

Section 2.4.1; This section implies that all contamination, including low levels of arsenic in the peripheral area, is entirely due to the former smelter stack. It appears that Ecology has not considered other urban sources of arsenic, which may contribute to levels in soils above background. These sources include: the use of locally-purchased gravel which contains naturally-occurring concentrations above 20 ppm; the use of pressure treated lumber with arsenic-based preservatives in landscaping features, play equipment, home building material or telephone poles; and the use of pesticides and herbicides which contain arsenic at intentionally toxic concentration.

GQ	Comment ID	Last Name
7.1.5	164	Aldrich

Comment

Section 7.2.1.1 Peripheral Area. pages 102-104; The cleanup level of 20 ppm is the background concentration of arsenic in Puget Sound soils, and as such represents a very conservative action level for the protection of human health. A cleanup action level of 20 ppm will result in decisions to remove soil from a decision unit when either the soil does not contain arsenic originating from the former Everett smelter (due to the presence of arsenic from other urban sources) or the arsenic concentration in soil does not in fact exceed the background concentration (due to sampling errors).

GQ	Comment ID	Last Name
7.1.5	416	Aldrich

Comment

The proposed 20 ppm arsenic cleanup level and corresponding sampling program for residential soils are inappropriately conservative and do not consider the potential for other urban sources of arsenic to influence residential soil concentrations.

GQ	Comment ID	Last Name
7.1.5	417	Aldrich

Comment

As part of Asarco's prior new science submittal, an analysis of Ecology's published soil background concentrations for the Puget Sound was conducted. This analysis, along with other information, was provided to point out two problems: 1. Other influences on urban soils may result in exceedance of a 20 ppm arsenic concentration. 2. Sampling methodology and corresponding decision rules, which are important for any remediation program, become extremely important when the cleanup or remediation level is set at or near background concentrations.

GQ	Comment ID	Last Name
7.1.5	418	Aldrich

Comment

In response to that portion of the new science submittal, Ecology points out that although the data used by Asarco were identified as representative of background in Ecology's study, the data set was in fact flawed due to inclusion of data points influenced by the Tacoma Smelter. Ecology may be correct in indicating its own background data set is flawed, if the intent for that study was to identify arsenic concentrations in native soils uninfluenced by urbanization. However, when setting soil cleanup and remediation levels and developing the sampling methodology and decision rules to determine the need for residential soil removal and replacement, Ecology should weigh the potential for other urban sources of arsenic to influence the decision-making process. It has not done so.

GQ	Comment ID	Last Name
7.1.5	419	Aldrich

Comment

During mediation, Asarco provided Ecology with information identifying some significant non-smelter influences that could affect arsenic concentrations in Everett residential soils. This information is summarized in the detailed comments, attached. These sources include: 1) Use of locally-purchased gravel by the city and homeowners that contains naturally occurring concentrations of arsenic (measured range up to 161 ppm; Ecology Press Release 98-068, May 6, 1998). 2) Use of soil nutrient amendments that have been documented to contain up to 4,500 ppm arsenic. Ecology estimated that just one year's use of Ironite at the manufacturer's stated application rate could raise arsenic levels in soil above the 20 ppm arsenic cleanup level (Ecology Press Release 98-092, June 5, 1998). 3) Historical use of pesticides and herbicides, containing both arsenic and lead at intentionally toxic concentrations (up to 520,000 ppm arsenic). 4) Use of landscaping and decking timbers and wood chips treated with an arsenic-based preservative (up to 30,000 ppm in wood). Even though Ecology has indicated that the higher background data set values could be linked to the Tacoma Smelter, it is still important for Ecology to consider the potential for the above-listed sources of arsenic to influence soil concentrations at Everett.

GQ	Comment ID	Last Name
7.1.5	420	Aldrich

Comment

In the new science submittal, the effect of Ecology's standard three-part decision rule was evaluated relative to the Ecology background data set. In that analysis, the significance of the following three components of the decision rule were individually evaluated. 1) Comparison of the 95% upper confidence limit (UCL) of a sampling data set mean to the cleanup or remediation level. 2) No more than 10% of the data set can exceed the cleanup or remediation level (i.e., less than one in ten samples above cleanup or remediation level). 3) No single value greater than two times (2x) the cleanup or remediation level (i.e., with a cleanup level of 20 ppm, no single sample value above 40 ppm).

GQ	Comment ID	Last Name
7.1.5	421	Aldrich

Comment

The decision component with the greatest effect is the 2x rule. This is due to several values from the background data set exceeding 40 ppm. Ecology's intended use of the three-part decision rule, in post-remediation compliance monitoring, is not clear from the draft CAP. Ecology does, however, incorporate the 2x part of the three-part decision rule for their initial determination of the need to remove and replace soil in the top 12 inches.

GQ	Comment ID	Last Name
7.1.5	422	Aldrich

Comment

It appears that Ecology is proposing initially to sample all residential properties within the current CPM (approximately 595 properties) on a front yard/back yard basis on six-inch depth increments down to a depth of four feet. According to the draft CAP, at a minimum, ten sample locations will be selected within the front yard and ten within the back yard. Individual samples will then be collected from each depth interval at each of the ten locations within a front yard or back yard. For example, ten locations in the front yard times eight six-inch sampling intervals to a depth of four feet, results in the collection and analysis of 80 individual samples for that front yard. It is our understanding from the draft CAP that the results from the sampling effort will be used to calculate a geometric mean for each 6-inch depth interval, and, if the average exceeds 20 ppm arsenic for either the 0-6 or 6-12-inch interval, those soils will be removed and replaced. Also included in the draft CAP is the decision rule that, if a single value in the top foot exceeds 40 ppm (the 2x component of Ecology's three-part decision rule), the entire front and/or back yard will require soil removal and replacement to the depth of exceedance even if the average concentration is less than 20 ppm. Based on the draft CAP, the same fundamental averaging approach is also applied over the 1- to 4-foot depth interval, with increasing allowed average and maximum remediation values with greater depth. However, given that the main influence of smelter deposition and other urban arsenic sources appear to be in the top foot of soil, we are focusing on that portion of Ecology's draft CAP.

GQ	Comment ID	Last Name
7.1.5	423	Aldrich

Comment

Given the prescribed sampling approach and decision rules, any and all of the above listed common urban sources of arsenic have the potential to result in contributions to urban soil that would result in exceedance of the 20 ppm remediation level and the 40 ppm single maximum value decision rule. As an example, a front yard may have sample results for the 0- to 6-inch or the 6- to 12-inch interval where all but one of the individual values were at 19 ppm and a single value of 35 results in a geometric mean concentration of 20.2 ppm that exceeds the 20 ppm remediation level. Another example is a yard where nine of the ten sample values are at nondetectable concentrations with a single value over the maximum allowed value of 40 ppm. Both of these scenarios could be caused by any number of non-smelter-related influences and would result in the entire front or back yard soil being removed and replaced. Ecology, however, failed to consider that influences from the above-identified non-smelter, urban sources of arsenic could easily result in exceedance of both the average (20 ppm) and maximum (40 ppm) arsenic cleanup and remediation levels for the top foot of soil. Nor does it acknowledge that in an older urban area such as Everett, peeling lead-based paint could easily cause exceedance of the lead remediation level of 353 ppm established for the top one foot. (See Section B for a more detailed discussion of the appropriateness of a 353 ppm soil lead remediation level.)

GQ	Comment ID	Last Name
7.1.5	424	Aldrich

Comment

The draft CAP should also recognize that the relationship of non-smelter influences to remediation levels, sampling approach, and decision rules are of greatest importance with distance from the smelter source. In general, as distance from the Everett Smelter increases, the level of airborne deposition decreases. With less influence from smelter deposition, the relative contribution from the other identified sources becomes more significant. For this reason, the sampling approach and decision rules will have great influence not only on an individual property basis but also on defining the overall extent of the planned soil removal activities. From the draft CAP it is apparent that Ecology has not considered the important relationship between non-smelter influences and remediation levels, sampling approach, and decision rules with regard to the extent of the required cleanup beyond the current CPM boundary. Because of the very low cleanup and remediation levels and the proposed sampling approach, the outermost extent of the cleanup area could not be estimated. Without first considering these issues and estimating the extent of the required cleanup, Ecology cannot evaluate many of the criteria required under their integrated CAP/EIS processes, such as the extent and duration of impacts to the community and the estimated cost.

GQ	Comment ID	Last Name
7.1.5	425	Aldrich

Comment

Another important consideration when developing an approach for residential soil sampling is the concentration at which the cleanup or remediation level is set. As noted previously, the draft CAP identifies a default background concentration of 20 ppm as the level at which residential soil will be excavated and replaced with “clean” soil. Not only does this standard lack any reasonable relationship to protecting human health, but the proximity of the 20 ppm cleanup level to background raises additional problems as well. As noted above, because the 20 ppm value is so low, it is highly likely that a majority of the residential properties within the CPM, as well as a large number outside the CPM, will require remediation. Because exceedance of an arsenic cleanup or remediation level can be predicted for a large portion of the Site, based on existing data, a relatively simple and correspondingly inexpensive sampling approach would be the most appropriate for confirming the obvious in these areas.

GQ	Comment ID	Last Name
7.1.5	426	Aldrich

Comment

The fact that the removal level has been set far below the levels at which any observed effects from arsenic in soil have been documented is also an important consideration. Because the draft CAP cleanup and remediation levels are so low, the consequences of missing a small amount of contamination near those levels are minimal. Again, this perspective favors the development of a simple, but efficient, sampling methodology, rather than the costly and involved sampling approach provided in the draft CAP. (This is not to suggest, of course, that the 20 ppm cleanup level is appropriate.)

GQ	Comment ID	Last Name
7.1.5	427	Aldrich

Comment

As noted above, Ecology should have considered the potential for other influences on soil arsenic and lead concentrations when establishing soil cleanup and remediation levels. Ecology should also consider the potential effects of its proposed sampling approach and decision rules relative to the proposed cleanup and remediation levels and the potential for other influences. The results of Ecology's consideration of these issues should be further evaluated within the larger decision-making process including the draft EIS and, as discussed in the following comment, the cost of the proposed cleanup.

GQ	Comment ID	Last Name
7.1.6	129	Ryan

Comment

How will you get 10 soil samples in "maintenance areas not normally occupied" and to what depth? Crawl spaces are often dry, compacted and with restricted access and head room.

GQ	Comment ID	Last Name
7.1.7	21	Robison

Comment

We, the citizens, also want to be involved when further details on the sampling and monitoring are formulated. We need clarification, too, of sampling plans for the park and other nonresidential areas.

GQ	Comment ID	Last Name
7.1.7	142	Aldrich

Comment

Secondly, institutional controls (which the draft CAP relies on after excavation of soils, but not in evaluating the benefit of performing the excavation of surface soils) are already in place in the business district in the form of zoning restrictions, which prevent residential development. Maintenance of these controls would be a minor component of the overall cleanup action. In addition, the draft CAP is internally inconsistent with respect to the role of institutional controls in the overall remedy. Page 75 contains the following statement, "Ecology has no confidence that institutional controls will adequately prevent exposure to elevated concentrations of contaminants." This position is used to support the draft CAP's position that surface soils with arsenic above 20 ppm must be excavated in all areas including commercial and recreational. However, on page 95 the draft CAP states, "Institutional controls are a critical component of the cleanup action plan at the Everett Smelter Site." The reality is that even the cleanup proposed by Ecology has a fundamental reliance on institutional controls to prevent unacceptable exposures. However, the failure to apply this logic "up front" during the development of remedial actions results in an unbalanced remedy, which relies on excessive soil removal actions in residential and non-residential areas. Institutional controls have been used as an effective method of preventing exposure to metals in soils at numerous similar large urban sites throughout the country, the principal control being to maintain or create areas where residential use is prohibited by zoning restrictions. An example of the effective use of institutional controls for remediation in urban areas is the cleanup currently being performed at an old lead smelter site in Murray, Utah. Like Everett, the former smelter area has been converted to commercial/residential uses since the smelter shut down. The remedy calls for excavation of approximately 60,000 cubic yards of soils containing flue dust and arsenic trioxide with an average arsenic concentration around 9,000 ppm. The material will be contained in a fully encapsulated repository system to form the base of a roadway through the site. The roadway will provide enhanced site access and has led to a developer acquiring the land to construct commercial/service facilities, thus capping the remainder of the site. The repository is within 50 feet of current residences; however, with institutional controls administered by the city, the remedy is protective by preventing direct contact with the materials and by preventing migration of arsenic from the materials. With the use controlled by zoning, cleanup levels for the commercial area adjacent to the repository have been established at 5,600 ppm lead and 1,200 ppm arsenic.
The selection of residential remediation levels for recreational areas is unrealistic and fails to consider actual arsenic exposure. With respect to recreational areas, WAC 173-340-740(1)(d) provides clear flexibility for Ecology to set cleanup levels on a case-by-case basis, as noted in draft CAP Section 4.1.2. However, Ecology states that, "Since these (recreational) areas are all adjacent to or in the general vicinity of residential areas, and since cleanup to residential standards is practicable, cleanup levels will be established in accordance with residential use." Once again Ecology is using an assumed practicability of cleanup to residential cleanup levels as a basis to justify setting a cleanup level for non-residential areas. No analysis of practicability is presented in the draft CAP nor is a substantial and disproportionate analysis of cost presented. Potential exposure to arsenic in soils at a golf course or park is vastly different than for a residential area. While it is logical to assume that children play in playgrounds, it is not logical to assume that the same child, the hypothetical "reasonably maximally exposed" child, will play there every day for six years. Common sense dictates that a remediation level would be higher for recreational areas where exposure is infrequent, and irregular, than for residential areas. The cost estimated to excavate and replace surface soils with arsenic just above 20 ppm from recreational areas is disproportionate to the negligible additional protection provided. The remediation of commercial areas at Everett should be based on realistic exposure scenarios and a recognition of the effective restriction of current and future land use due to zoning. Only by using institutional controls can substantial and disproportionate costs be avoided.

GQ	Comment ID	Last Name
7.1.7	376	Glass

Comment

See CAP Figure 6-6, page 85: As noted in the text, these soil volume estimates are only for those residential properties in the peripheral area for which interpolated values are included in the database. They are understood to be imperfect estimates. The comparison of soil volumes reflected in the two columns is nevertheless meaningful. The EIS includes an estimate of total soil removal volumes for the selected remediation levels in the peripheral area, including both residential and non-residential properties (see EIS Tables 3-4 and 4-3). The total volume estimated in the EIS is 162,000 cubic yards, with perhaps an additional minor increment of 4,000 CY of >3,000 ppm arsenic soils for disposal at Arlington, OR (see page A4-42). The CAP states in section 4.1.2 that cleanup standards for commercial and recreational land use areas within the site will be identical to those for residential areas. Apparently the same remediation levels also will apply to all peripheral area properties, regardless of current land use. Given the extent and locations of non-residential areas in the peripheral area, it is likely that more than 21,000 cubic yards of accessible soil (the difference between the EIS total estimate of 166,000 CY and the 145,000 CY shown for residential properties in Figure 6-6) will exceed the stated remediation levels. The two volume estimates appear to be incommensurate. Ecology should consider additional discussion in the CAP regarding non-residential property cleanup actions in the peripheral area. The practicability analyses for applying the same cleanup levels and remediation levels at non-residential properties should be further developed and presented. I understand that soil arsenic criteria for non-residential land uses are being developed at another MTCA site (Former DuPont Works), which may provide some comparison analyses. With respect to sampling at non-residential properties, would it not be reasonable to modify the size of decision units to something greater than 4,000 square feet?

GQ	Comment ID	Last Name
7.1.8	283	Young R.S.

Comment

The Performance Monitoring Plans should include details concerning sampling and construction documentation. The plan should include testing of all media of concern, including soil, air, water, vegetative waste, food harvested in the area, sediment and dust. The report should be that carpets in homes are clean. We noted that the DCAP includes cleaning of the carpets in houses, however, it does not mention cleaning of heating ducts.

GQ	Comment ID	Last Name
7.1.9	2	Ryan

Comment

The sampling protocol for the fenced area seems complicated. The requirement that samples be collected from soil borings in 6" intervals to 3' beyond excavation seems to infer there will be unexcavated areas within the fence. Although current tests are not sufficient, I cannot believe there will be areas requiring no remediation - but if so, what about materials below that spot? Were the smelter area investigations tests sufficient to characterize the whole area for safe cleanup? I seriously question the assumption of debris free areas around the buildings. There are several spots in the fenced area where old buildings are apparent at surface.

GQ	Comment ID	Last Name
7.1.9	22	Robison

Comment

The fenced area needs more testing. There may be other pockets of contamination besides those found at the edges of the old buildings. I would prefer to have more, rather that less, contaminated soil removed from the fenced area. We do not want to have to do more remediation later.

GQ	Comment ID	Last Name
7.1.9	217	Aldrich

Comment

It is Asarco 's understanding that sampling every 400 square feet is not required for the entire 6 acres, but rather, only at the bottom of excavated areas.

GQ	Comment ID	Last Name
7.1.9	388	Glass

Comment

See Section 7.2.1.2. The discussion of sampling at the smelter fenced area appears to indicate that performance monitoring will be conducted only through borings and soil sampling at the limits of excavation areas. Based on the smelter area investigations, ASARCO has concluded that materials exceeding 3,000 ppm arsenic only occur in areas close to the footprint of the former smelter facilities; that is, demolition of the smelter was essentially “in-place” demolition, with no movement of materials to fill in swales or for other reasons, and no greater area of residual contamination above 3,000 ppm as a result of smelter operations. (Detailed records of demolition are not available). The extent of available sampling data summarized in the smelter area investigation for areas beyond identified excavation areas is inadequate to support such a conclusion. The soil arsenic concentrations > 3,000 ppm in the Medora Way area are not proximate to former smelter structures. Data from an interim action sampling site (IA-1; see RI report, Table 1-13, page I-30) near SAIC-S26 show increasing concentrations with depth, to a maximum of 3,100 ppm arsenic at 23-25 inches; that location also appears to be beyond the intended excavation area. A systematic sampling program should be performed to determine whether additional areas require excavation and to document the levels and amounts of contaminants to be contained onsite (see WAC 173-340-360(8)(c)). This can be accomplished for a moderate and reasonable cost. For example, assuming approximately 2 of the almost 6 acres of the smelter fenced area are not excavated, a sampling density of one boring per 1,600 square feet (40-foot spacing) would require about 60 borings. Samples should be collected down to till. Assuming an average of 10 feet to till, and samples composited vertically in two-foot intervals, a total of 300 samples would be analyzed. All samples should be analyzed for arsenic; a subset should be analyzed to other site-related contaminants. Similar sampling beneath excavated areas should be conducted down to till. Field screening using a portable XRF could provide detailed information with greater spatial resolution about contaminant levels near the limits of excavation.

GQ	Comment ID	Last Name
7.1.10	168	Aldrich

Comment

Section 7.2.3 Surface Water. page 105; Certain city rights-of-way with imported gravel or park areas and easements that may contain pesticides from past maintenance practices may show arsenic concentrations above levels listed in Section 4.1.4 but that are not attributable to the former smelter. Therefore, it is important for Ecology to identify the area subject to the performance monitoring plan.

GQ	Comment ID	Last Name
7.1.11	169	Aldrich

Comment

Section 7.2.5 Storm Drain Sediment. page 106; Certain city rights-of-way may contain residual arsenic that would indicate arsenic concentrations in storm sediments above levels listed in Section 4.1.5 but that are not attributable to the former smelter.

GQ	Comment ID	Last Name
7.2.1	3	Ryan

Comment

The long term institutional controls require resampling at remediated properties. This is a good idea but currently does not define how many samples, where in yard, how deep, etc. Are you assuming the same plan as cleanup or something less costly? How will properties be chosen? Same ones at 5, 10, 15 years?

GQ	Comment ID	Last Name
7.2.1	88	Langabeer

Comment

It is particularly important that long-term monitoring is assured.

GQ	Comment ID	Last Name
7.2.1	126	Ryan

Comment

The effectiveness evaluation section should be much more specific. "Selective" soil resampling does not define scope, range or a true reevaluation of cleanup effectiveness.

GQ	Comment ID	Last Name
7.2.1	284	Young R.S.

Comment

We look forward to reviewing, or helping in the development of, the Confirmation Monitoring Plans which will include more detail concerning quality control sampling, operations and maintenance and institutional controls. This plan will be a valuable tool for us in the future when trying to evaluate the successfulness of the cleanup, or evaluating a breach in containment. The plan should have provisions for the handling of material found to be contaminated in a post cleanup situation. The plan should include details on how the sediment will be dewatered, stored and tested. Details are also still needed about street cleaning methods and frequency. In addition, it may be a good idea to develop contingency plans for surface water protection before non-compliance in monitoring is reported.

GQ	Comment ID	Last Name
7.2.1	289	Valeriano

Comment

Under the plan a significant amount of contamination may be left below 2 feet, which will have to be monitored into the future. The current plan for institutional controls is not clear as to what will happen if there are problems found with monitoring and it appears as if the only check on whether they are working is the 5 year periodic review. We are concerned with relying on the 5 year review mechanism, because we do not think they are occurring. We are further concerned that dwindling resources at Ecology and fewer staff will make this review difficult every 5 years.

GQ	Comment ID	Last Name
7.2.1	380	Glass

Comment

I also support the periodic monitoring of the long-term effectiveness of on-property containment of residual soil contamination, through repeated sampling of "selected" surficial soils for possible recontamination.

GQ	Comment ID	Last Name
7.2.1	381	Glass

Comment

Permanent remedies for soil contamination with arsenic and other metals, as that term is defined in MTCA, are very difficult if not impossible to achieve. From the point of view of community residents, however, excavation and replacement of contaminated soils with transport of contaminated soils out of the community for ultimate disposal achieves permanence as a practical matter for their properties (see page 72 et seq.). The proposed cleanup actions, considering practicability and protectiveness, combine soil excavation and removal with on-property containment actions. An extensive set of institutional controls is proposed for long-term community protection from residual site contamination. Those institutional controls are an essential component of the overall protectiveness of the selected remedy for the site (given its "impermanence"); they need to be effectively implemented and funded. A decision not to remove contaminated soils as part of this cleanup action is not really a permanent no action decision; it is more appropriately viewed as a deferred action or an active, long-term management decision. Institutional control programs will not be perfect; some "error rate" will be associated with them, representing errors and potential exposures that would not occur if contaminated soils had been removed from the community (the more "permanent" solution). Considering how long arsenic will remain in community soils, it is also worth considering how long institutional controls can be made effective at a large number of properties including hundreds of residential parcels. If they weaken or disappear over time, then a long-term management and deferral of action decision could be changed into a de facto no action decision. Ecology should provide some minimum specifications for the resampling program within the CAP, lest de minimis sampling programs be considered which would not be useful in monitoring long-term community protectiveness. During the MTCA PAC process, the point was raised and emphasized (by Rod Brown, among others) that if institutional controls are to be used as an element of cleanup actions, they should be subject to the same standards for demonstrating long-term effectiveness as any engineering measures would be. Periodic resampling of surficial soils, to document that they remain below applicable cleanup standards, should be part of that demonstration for the Everett Smelter site, especially given the large number of activities that potentially disturb residential property soils.

GQ	Comment ID	Last Name
7.2.2	170	Aldrich

Comment

Section 7.3 Confirmational Monitoring page 106; Ecology's confirmation monitoring is not designed to distinguish arsenic from the smelter from other sources of arsenic. A new source could result in contaminant exceedances after completion of cleanup that are totally unrelated to the smelter. This requirement would seem appropriate only if Asarco had an ongoing operating facility in the area.

GQ	Comment ID	Last Name
7.2.3	210	Magnuson-Whyte

Comment

I wholeheartedly support the provisions. I would, however, like stronger action regarding the possibilities in the future. What if, after the dust settles and the lawyers have gone home, we discover contamination on or near the site? I am not sure the plan is totally adequate in that regard. Excellent job in most other regards, though.

GQ	Comment ID	Last Name
8.1	13	Robison

Comment

PERIPHERAL AREA. I support further sampling of the properties to be remediated and the site-specific approach to cleanup. This of course must be done with the cooperation of the property owner, but I have some fears that people will balk at the process when face-to-face with it, despite all the reassurances they can be given. I am thinking now of the 10 homes to be cleaned up this summer. It would be very regrettable, if it occurs, and public education will play a key role in staving off such a contingency. I hope I am unduly anxious. Up until now we have been a long way from the "shovels" and I hope that after people have seen what the process involves - that it is not a long disruption at any one house - it would be less threatening.

GQ	Comment ID	Last Name
8.1	63	Enberg

Comment

Is there anything we should know or do now concerning the cleanup?

GQ	Comment ID	Last Name
8.1	65	Kahlor

Comment

I plan to relandscape my yard this year. Will my yard be included in the cleanup and should I wait to do any landscaping?

GQ	Comment ID	Last Name
8.1	75	Scougale

Comment

There should be a lot more publicity on the need/progress of this operation. Regular reporting as each stage proceeds.

GQ	Comment ID	Last Name
8.1	97	Public Meeting Commentor

Comment

Are the first eight to ten homes located around the fenced area?

GQ	Comment ID	Last Name
8.2	16	Robison

Comment

I wish the plan spelled out the schedule for further sampling throughout the peripheral area. For too long people have lived with uncertainty as to whether they are "in" or "out," and if they area "in," when they could expect to be remediated. Presumably testing will be required regardless of the outcome of litigation. I would like to see some kind of a projected time line.

GQ	Comment ID	Last Name
8.2	38	White

Comment

The Washington Administrative Code governing draft cleanup action plans requires that a draft plan include "The schedule for implementation of the cleanup action plan including, if known, the restoration time frame…"[WAC 173-340-360 (10)(a)(iv)]. The DCAP fails to include any type of implementation schedule despite the WAC requirement for one. We are left, therefore, with the unreasonable task of commenting on a draft plan with no reference to timing, certainly one of the critical elements to any action plan, and especially critical to a plan dealing with removal of toxic substances from a residential area. It is, in fact, a reasonable conclusion from the DCAP that the homes in our community will still be contaminated after another eight years, or even double or triple that time. The final CAP must include a specific implementation schedule and a corresponding financing plan. There must be a schedule that provides for every property owner to have a reasonable idea of the level of contamination in his/her yard in the very near future. Secondly, there must be a schedule for determining the final boundary for the cleanup. It is unacceptable to think that there may be scores if not hundreds of Everett citizens who will be affected by this CAP but who are unaware of the fact because they have accepted the maps Ecology has publicized for years. Finally, the CAP must include a detailed schedule showing the order of actions and general timeline for full cleanup.

GQ	Comment ID	Last Name
8.2	285	Young R.S.

Comment

We understand that a detailed schedule for the cleanup is all but impossible with the continuing litigation between Asarco and Ecology. However, we believe alternative schedules, depending on the various outcomes of the legal action, should be included in the DCAP. This information will assist your agency, and the neighborhood, in making informed decisions in the future. For example, if a solution for a timely cleanup can't be reached next year, your agency may want to allocate limited money for interim actions for a large number of properties rather than cleaning up a few.

GQ	Comment ID	Last Name
8.2	291	Valeriano

Comment

Finally, we are concerned that there is no comprehensive schedule to implement this plan. We fully support Ecology moving forward with a cleanup, but there really needs to be assurance that activities will move forward on a timeline and milestones will be met. Including a restoration timeframe in the cleanup plans is an important requirement of MTCA and essential for the community. We request that a more comprehensive schedule be included in the final plan.

GQ	Comment ID	Last Name
8.2	348	Soine

Comment

Section 8 Scheduling. There is no schedule for the planning and implementation of the institutional controls. This section addresses primarily the tasks of sampling and soil removal.

GQ	Comment ID	Last Name
8.2	489	Public Meeting Commentor

Comment

Other than the work being done on the 8-10 homes this summer and assuming the lawsuit with Asarco continues, do you have any plans to do additional testing/remediation and when?

GQ	Comment ID	Last Name
8.2	491	Public Meeting Commentor

Comment

Because of the potential cleanup, some people have put off doing maintenance (painting, roofing). How will the cleanup impact these things?

GQ	Comment ID	Last Name
8.3	17	Robison

Comment

SMELTER FENCED AREA. The sooner we get the highly contaminated soils out of the area, the better. ASARCO owns the property. Could they not be ordered to remove those soils in the next construction season? There is no real question there of a 20 ppm arsenic level. Surely that action is a MUST at some point, and the court case would have little bearing on it. We know that material will have to go to Arlington, OR. A temporary cover might be needed for the depression until peripheral soils can be excavated to fill it. But at least it would be a visible step in the right direction, and those soils could not continue to pose a threat to ground and surface waters. People have waited long enough for some real "action."

GQ	Comment ID	Last Name
8.3	23	Robison

Comment

If the cleanup process is far enough along to fill the depression left by removing the highly contaminated soils with peripheral soils, that would be the preferred action. It would, I believe, save several million dollars over putting in clean soils. Certainly the "hole" cannot simply be left there for long. It would need at least a temporary cap, and that would be costly and not a solution in the long run.

GQ	Comment ID	Last Name
8.3	123	Ryan

Comment

Can there be some suggestion that if scheduling allows, cleanest peripheral soils should go in fenced area? It costs no more to truck 2900 ppm than to truck 29 ppm and the "cleanup" would certainly be better in the long run.

GQ	Comment ID	Last Name
8.3	331	Aldrich

Comment

The draft CAP calls for placement of the least contaminated soils in the consolidation facility. Placement of these soils under a cap in the fenced area provides no more protection than leaving them in place under grass cover. The difference in risk is so marginal as to be outweighed by remediation risk so that the cost is substantial and disproportionate to the benefit. In addition, the proposed staging implies that Ecology is not that concerned about the soils with arsenic concentrations above their estimated acute risk level that will be remediated later in the overall remediation schedule.

GQ	Comment ID	Last Name
8.3	397	Glass

Comment

Assuming that the cost per ton to transport and dispose of problem waste contaminated soils offsite (e.g., at the Roosevelt regional landfill) is unaffected by the contaminant concentrations, being determined by transport costs per ton and landfill tipping fees only, there is no cost penalty to requiring that excavated peripheral area soils being consolidated at the smelter fenced area be relatively low-concentration soils. This will reduce the total amount of contamination being left onsite under a long-term containment approach. It will avoid circumstances where soils marginally above 3,000 ppm arsenic are removed only to be replaced with peripheral soils at several thousand ppm arsenic. Additional timing and sequencing issues may need to be considered to integrate the smelter fenced area and peripheral area components of the CAP. Delaying backfill of excavation pits at the smelter fenced area, and deferring cleanup of highly-contaminated residential properties so that modestly-contaminated properties are addressed to provide consolidation soils, both have some obvious drawbacks. The principle of using least-contaminated peripheral soils as consolidation materials, however, should be met to the maximum extent practicable.

GQ	Comment ID	Last Name
8.4	6	Ryan

Comment

The current Draft shows no time table for the cleanup for rather obvious reasons. The neighborhoods that have waited so long for action deserve a reasonably speedy cleanup when action is finally begun. If ASARCO is assumed to be doing the cleanup, there must be some criteria such as number of properties per year (or percentage of site, or ...) which would assure a cleanup balancing disruption, stress of waiting for your property's turn, cost to the liable party and similar considerations. A 5 year span seems reasonable with possible addition of another year for sampling (some cleanup should be done in all years). The suggestion in the EIS p. A4-42 that the area could be remediated in 3 years seems high. Isn't Ruston doing 125 homes/year? It would be wonderful if we could do this in three years but it hardly seems possible, especially if the CPM boundary stretches south with further testing. Since there seems to be no question of ASARCO ownership and liability for the fenced property, can they be required to begin cleaning ASAP to get the process started?

GQ	Comment ID	Last Name
8.4	30	Robison

Comment

It is possible that the community would accept a slower pace for cleanup as time goes on (slower compared to the Ruston operation), if it would mean less disruption in their neighborhood. Perhaps this is something that can be assessed later on.

GQ	Comment ID	Last Name
8.4	241	Aldrich

Comment

In addition to the gross underestimation of volume, Asarco questions the practicability of a three year schedule. As noted, Asarco believes that Ecology has significantly underestimated the volume required to be removed which, in turn affects the schedule. The actual, foreseeable volume to be removed may be up to twice that estimated in the draft EIS. Even using the volume estimates from the draft EIS, Asarco believes that Ecology is overly optimistic in proposing the removal of approximately 55,000 cubic yards per year. Asarco believes that attempting to establish 5 separate work areas will significantly disrupt the community throughout the duration of the work. In addition, safety risks greatly increase for workers as well as the public and unit costs substantially increase as a result of increased labor and equipment requirements. It also appears that Ecology has not accounted for any potential complications associated with this type of work. It is Asarco's experience that there will be a high likelihood of complications or decrease in productivity due to the following: Lack of accessibility to some properties; Delays associated with homeowner preparation or requested changes; More hand work or need for smaller equipment than anticipated (e.g., work around utilities or structures); and, Dealing with unknown conditions such as private utilities or septic tanks.

GQ	Comment ID	Last Name
8.4	242	Aldrich

Comment

Finally, it appears that other draft CAP requirements have not been addressed which will affect the schedule. These other requirements include: Moving non-permanent structures; Replacing decks; Securing maintenance areas; Thoroughly cleaning the houses post-remediation; Placing fabric barriers at the 12-inch depth; and, Replacing streets, sidewalks, driveways, steps, and patios that do not comply with ASTM standards.

GQ	Comment ID	Last Name
8.4	285	Young R.S.

Comment

We understand that a detailed schedule for the cleanup is all but impossible with the continuing litigation between Asarco and Ecology. However, we believe alternative schedules, depending on the various outcomes of the legal action, should be included in the DCAP. This information will assist your agency, and the neighborhood, in making informed decisions in the future. For example, if a solution for a timely cleanup can't be reached next year, your agency may want to allocate limited money for interim actions for a large number of properties rather than cleaning up a few.

GQ	Comment ID	Last Name
9.0	5	Ryan

Comment

All in all this Draft is a good starting place but needs specificity and clarification before appearing as a document seeking legal approval for enforcement. I am hopeful the current ambitious time table can be adhered to and that the real cleanup for all the areas can finally take place.

GQ	Comment ID	Last Name
9.0	8	Robison

Comment

This draft Cleanup Action Plan is truly a milestone in a long effort to get some actual remediation done on the Everett site. I commend the staff members who worked on it so diligently and I go on record as substantially supporting it as written. It does a good job of meeting the expectations of the citizens, although in this case I speak principally for myself. I hope others in the two neighborhoods will have their own comments. I really appreciate Ecology's plans to start removing and replacing contaminated soils at about 10 residences this summer.

GQ	Comment ID	Last Name
9.0	20	Robison

Comment

MONITORING. The monitoring described in the CAP is excellent and I support it strongly. We cannot assume that "clean" is "clean" without objective data. And I really like the idea of finishing up at each property with a thorough house-cleaning.

GQ	Comment ID	Last Name
9.0	36	White

Comment

We first want to indicate our appreciation for the commitment Ecology is now showing for moving the decision process along. Despite its status as Ecology's most important residential contamination site in the state, this site and the residents of this community have been left dangling through eight-plus years of inaction.

GQ	Comment ID	Last Name
9.0	37	White

Comment

We want to strongly support the proposed immediate cleanup of the highly contaminated homes within the footprint of the former smelter. These homes ought to have been cleaned up long ago and certainly warrant the attention they will now be receiving.

GQ	Comment ID	Last Name
9.0	61	Chase

Comment

Thank you for your efforts. Can cleanup happen?

GQ	Comment ID	Last Name
9.0	70	Beaman

Comment

The planned procedures appear to be prudent, comprehensive and an acceptable minimum. There are monitorings and samplings in the plans for such vital aspects as water, air, soil, and 5 year reviews of cleanup actions and assessment of recontamination. I support the plan.

GQ	Comment ID	Last Name
9.0	71	McKeague

Comment

This is a good plan and needs to be implemented. Thanks for coming up with the plan.

GQ	Comment ID	Last Name
9.0	72	Wilson

Comment

I support the action plan. Since arsenic is such a toxic substance there are steps which must be taken to insure safe neighborhoods for our children. Hooray for the action committee!

GQ	Comment ID	Last Name
9.0	73	Durard

Comment

I wish to express my appreciation for this plan to clean up the smelter site. This is extremely important for the health of our community and especially the children. It is important to follow the plan closely so that the work can proceed without interruption.

GQ	Comment ID	Last Name
9.0	74	Stegath

Comment

Every possible control measure should be taken until every inch of land has been made safe for Everett residents. To do less would be a serious danger to future generations in this area.

GQ	Comment ID	Last Name
9.0	76	Hoffart

Comment

This cleanup needs to be completed (by state standards) to make our community livable. Don't let ASARCO drag this on or lower the standards.

GQ	Comment ID	Last Name
9.0	77	Anstis

Comment

I support cleaning the Everett Smelter Cleanup using state standards. This matter needs urgent attention.

GQ	Comment ID	Last Name
9.0	78	Minnick

Comment

This matter has dragged on for too long. It is a prolonged insult to Everett that action is delayed. I urge your immediate action. Clean up the site now!

GQ	Comment ID	Last Name
9.0	79	Smith

Comment

I support cleanup of the Everett Smelter area as soon as possible.

GQ	Comment ID	Last Name
9.0	81	Hamm

Comment

Please continue to enforce the cleanup standards!

GQ	Comment ID	Last Name
9.0	82	Hamm

Comment

Thank you for this report and all the hard work.

GQ	Comment ID	Last Name
9.0	83	Hamm

Comment

We need to move ahead to continue the cleanup.

GQ	Comment ID	Last Name
9.0	84	Abbenhouse

Comment

Having learned that the Everett Smelter Site is the second most contaminated site in the state of Washington, I am bound by conscience to write expressing my approval of the cleanup plan. I also want to express my abhorrence of the possibility that this plan might not be implemented.

GQ	Comment ID	Last Name
9.0	85	Abbenhouse

Comment

I am hopeful that the standards that Ecology has established for arsenic and lead in the soil at the Everett site will not be overridden for some other consideration of outside vested interests.

GQ	Comment ID	Last Name
9.0	86	Abbenhouse

Comment

As a long time supporter of the HEART OF AMERICA organization which tries to prevail upon the federal government to act responsibly in the cleanup of Hanford, I have thought long and hard about the obligation we have to future generations. Thus my appeal to you.

GQ	Comment ID	Last Name
9.0	87	Langabeer

Comment

I would like to express my support for the Draft Cleanup Action Plan. It appears to be a practical and science-based plan to protect the community.

GQ	Comment ID	Last Name
9.0	186	Hecht

Comment

I support the above proposal.

GQ	Comment ID	Last Name
9.0	187	Altice

Comment

I support the Draft Cleanup Action Plan issued by Washington State Department of Ecology for the Everett Smelter Site.

GQ	Comment ID	Last Name
9.0	188	Martino

Comment

I support the Everett Smelter Site Integrated Draft Cleanup Action Plan.

GQ	Comment ID	Last Name
9.0	189	Hugel

Comment

I support the Draft Cleanup Action Plan.

GQ	Comment ID	Last Name
9.0	190	Lichneckert

Comment

I support the plan for the ASARCO site cleanup.

GQ	Comment ID	Last Name
9.0	191	Jones

Comment

I feel home owners should enjoy a safe land area where they're currently living as free of land pollution as is possible within reasonable limits.

GQ	Comment ID	Last Name
9.0	192	Johanson

Comment

I feel the participants have worked very hard in arriving at this plan to make the community arsenic free. I feel their work plan should be implemented.

GQ	Comment ID	Last Name
9.0	193	Cogdill

Comment

I support the Everett Smelter Site Cleanup Action Plan with the hope that the health, safety, and welfare of the citizens directly effected be at the height of your decision making. All decisions should regard a permanent solution for decades to come.

GQ	Comment ID	Last Name
9.0	194	Hardy

Comment

I approve of the Draft Cleanup Action Plan, however, I would hope that continued negotiation between ASARCO, Department of Ecology, and the City of Everett would continue in regards to long term property resolution.

GQ	Comment ID	Last Name
9.0	195	Nasr

Comment

I support the above idea.

GQ	Comment ID	Last Name
9.0	196	Adams

Comment

I support the above written smelter cleanup plan.

GQ	Comment ID	Last Name
9.0	197	Reebuck

Comment

I have lived here in the Northeast neighborhood and have belonged to the Northeast Neighborhood Organization for many years. I have attended all meetings and have heard all the pros and cons of the matter for all the years of this matter since it has been brought out to the public. I support all the action's major components of the proposed above smelter cleanup plan stated on this notice from the human and the law side of it for our Northeast Neighborhood and all concerned.

GQ	Comment ID	Last Name
9.0	198	Hansen

Comment

I support the above statement of Northeast Everett Community Smelter cleanup draft action plan. I have been a resident of Northeast Everett since Feb 1964. I would like the community restored to a reasonable living condition.

GQ	Comment ID	Last Name
9.0	199	Adams

Comment

I agree and support the above written Smelter Cleanup Plan and hope that in the future the public and city of Everett will not allow our community to become a contamination dumping area.

GQ	Comment ID	Last Name
9.0	200	Trill

Comment

I agree with the smelter cleanup plan.

GQ	Comment ID	Last Name
9.0	201	Garver

Comment

I am in total agreement that clean up and monitoring of this situation is needed.

GQ	Comment ID	Last Name
9.0	202	Bradburn

Comment

I am in total agreement of the Smelter cleanup plan and monitoring of this situation is needed.

GQ	Comment ID	Last Name
9.0	203	Bradburn

Comment

I am in total agreement of the Smelter cleanup plan of Ecology Toxics Cleanup Program.

GQ	Comment ID	Last Name
9.0	204	Cuneo

Comment

I support the draft cleanup action plan issued by Ecology for the Everett cleanup site (entire smelter area). I have lived In the Northwest area for 23 years. I would like to see the whole area cleaned up.

GQ	Comment ID	Last Name
9.0	205	Otis

Comment

I agree and support the above written, cleanup smelter plan, and hope in the future that they cleanup the entire Everett area that has been contaminated.

GQ	Comment ID	Last Name
9.0	206	Brown

Comment

I support the movement to finally get the cleanup of the Asarco area underway, but let's don't waste any more time.

GQ	Comment ID	Last Name
9.0	208	Koonce

Comment

I agree and support the statements and plan as stated in the above Draft. I also hope that in the future, government and industry listen to the people and to their wants and their welfare above those of industry.

GQ	Comment ID	Last Name
9.0	209	Schofield

Comment

I support the above written letter and I would like to see it cleaned up.

GQ	Comment ID	Last Name
9.0	210	Magnuson-Whyte

Comment

I wholeheartedly support the provisions. I would, however, like stronger action regarding the possibilities in the future. What if, after the dust settles and the lawyers have gone home, we discover contamination on or near the site? I am not sure the plan is totally adequate in that regard. Excellent job in most other regards, though.

GQ	Comment ID	Last Name
9.0	212	Carpenter

Comment

I support the proposal.

GQ	Comment ID	Last Name
9.0	213	Carpenter

Comment

I would like to support the above proposed actions.

GQ	Comment ID	Last Name
9.0	214	Deakin

Comment

As a retired worker who loves to garden, I am concerned about working in contaminated dirt. Every effort should be made to clean up.

GQ	Comment ID	Last Name
9.0	215	Deahn

Comment

We are very concerned with cleaning plans for the Asarco contamination area. We hope that every effort be made for the responsible persons to return the area to a healthy livable place.

GQ	Comment ID	Last Name
9.0	256	Reninger

Comment

Over time, homes and businesses in the ESS area will be remodeled, demolished and properties redeveloped. The same is true for streets, driveways, alleys and sidewalks. As these actions occur, the cleanup plan needs to address the additional costs that a property owner would incur above and beyond that for normal construction activities. Essentially, the property owner should not bear these additional expenses. The potentially liable party needs to bear the additional cost burdens for dealing with and disposing of soil greater than 20 ppm arsenic for any and all redevelopment within the ESS

GQ	Comment ID	Last Name
9.0	262	Reninger

Comment

Overall, we find the Consolidation Alternative is both protective and viable. We are pleased to see that the hazardous waste is to be removed from the residential area, residences and businesses cleaned up in the peripheral areas and that residents could continue their lives with assurances against unwanted/uninvited exposure to arsenic in their yard, homes and community.

GQ	Comment ID	Last Name
9.0	286	Valeriano

Comment

We fully support Ecology moving forward with the cleanup action plan. This is long overdue and we hope that Ecology will seek additional funding to move forward with cleanup and aggressively seek reimbursement from the PLP.

GQ	Comment ID	Last Name
9.0	292	Wiggins

Comment

Children are at risk! Please do not delay the cleanup of contaminated areas in north Everett. Arsenic does not just go away by itself. I am very concerned about the children growing up in that area.

GQ	Comment ID	Last Name
9.0	293	Kauffman

Comment

I support this plan. This must be resolved.

GQ	Comment ID	Last Name
9.0	294	Kaufman

Comment

I fully support the plan as outlined.

GQ	Comment ID	Last Name
9.0	295	Arens

Comment

Keep up the battle! I support this plan.

GQ	Comment ID	Last Name
9.0	296	Lystad

Comment

I support this plan!

GQ	Comment ID	Last Name
9.0	297	Ogurkow

Comment

I feel this a good and comprehensive plan that will serve our neighbors needs now and in the future.

GQ	Comment ID	Last Name
9.0	298	Clark

Comment

Yes, I'm in favor of this.

GQ	Comment ID	Last Name
9.0	299	Markuson

Comment

I fully support this cleanup program from Department of Ecology!

GQ	Comment ID	Last Name
9.0	300	Aiken

Comment

I support this plan.

GQ	Comment ID	Last Name
9.0	301	Hendersen

Comment

I would support this plan to cleanup toxic waste and dispose of it properly.

GQ	Comment ID	Last Name
9.0	302	Blaine

Comment

This plan seems to be feasible and workable. Therefore, I support it.

GQ	Comment ID	Last Name
9.0	303	Jhmuerton

Comment

I support this plan.

GQ	Comment ID	Last Name
9.0	304	Kruis

Comment

I support this plan.

GQ	Comment ID	Last Name
9.0	305	Trautmann

Comment

I support this draft.

GQ	Comment ID	Last Name
9.0	306	Neighbors

Comment

I pray you will honor our request to resolve this important matter here in our northeast neighborhood.

GQ	Comment ID	Last Name
9.0	307	Petitclerc

Comment

I support this cleanup 100 percent.

GQ	Comment ID	Last Name
9.0	308	Surface

Comment

I own a chiropractic office in this section of Everett and am very concerned about peoples health. This seems to be a very good plan. I think the D.O.E. should be very concerned also.

GQ	Comment ID	Last Name
9.0	309	Pignataro

Comment

Support this cleanup action.

GQ	Comment ID	Last Name
9.0	310	Joseph

Comment

I am in support of this cleanup plan.

GQ	Comment ID	Last Name
9.0	311	McKee

Comment

I agree with this solution to our problem of cleaning up project.

GQ	Comment ID	Last Name
9.0	312	Getty

Comment

I support the above plan.

GQ	Comment ID	Last Name
9.0	313	Benson

Comment

The cleanup plan introduced in "Smelter Fence Area" seems reasonable and a good faith effort to provide the citizens of NE Everett with a safe Environment. Please accept these guidelines.

GQ	Comment ID	Last Name
9.0	314	Smith

Comment

I like this plan.

GQ	Comment ID	Last Name
9.0	315	Smith

Comment

I support the above statement.

GQ	Comment ID	Last Name
9.0	316	Smith

Comment

I support the above statement.

GQ	Comment ID	Last Name
9.0	317	Case

Comment

I whole heartedly agree with any plan solving a "disaster waiting to happen" with as stringent replacement of soils as possible.

GQ	Comment ID	Last Name
9.0	319	Wohl

Comment

I support the Everett Smelter Site Integrated Draft Cleanup Action Plan.

GQ	Comment ID	Last Name
9.0	320	Wohl

Comment

I support the current cleanup plan for the Everett Smelter Site.

GQ	Comment ID	Last Name
9.0	321	Kropf

Comment

I strongly support the arsenic cleanup plans outlined in the draft environmental impact statement.

GQ	Comment ID	Last Name
9.0	322	Nielsen

Comment

I support the Draft Cleanup Action Plan.

GQ	Comment ID	Last Name
9.0	323	Lindstrom

Comment

I support the Department of Ecology proposal to cleanup the ASARCO site in North Everett.