STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

CERTIFIED MAIL

January 24, 2006

Eric Weber
Landau Associates
950 Pacific Avenue, Suite 515
Tacoma, WA 985402

Re: Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the following Hazardous Waste Site:

- Name: Meridian Campus Development
- Address: Northwest intersection of Willamette Drive NE and Campus Glen Drive, NE, Thurston County, Washington
- Facility/Site No.: 9945
- VCP No.: SW0690

Dear Mr. Weber:

Thank you for submitting your Cleanup Action Plan and Site Characterization for the Meridian Campus Development, for review by the State of Washington Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding whether your proposed remedial action is likely to be sufficient to meet the specific substantive requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the site:

- Arsenic contamination in soils

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding the Site:

- Cleanup Action Plan and Site Characterization, Meridian Campus Development, Lacey, Washington, Landau Associates, June 16, 2005

The document listed above will be kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Appointments can be made by calling the SWRO resource contact at (360) 407-6365.

This site consists of properties within the areawide contamination zone identified by Ecology as the Tacoma Smelter Plume. As such, the Site is defined by the extent of contamination, within the boundaries of the properties proposed for remediation, resulting from atmospheric deposition from the smokestack emissions of the former Asarco copper smelter in Ruston, Washington.

The Site is more particularly described in Enclosure A to this letter, which includes site diagrams of the Meridian Campus Development. This letter is to provide an opinion on a cleanup approach for specific proposed subdivision tracts within the Meridian Campus, but not to provide an opinion on a cleanup strategy for the entire development area. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of your proposed remedial action and supporting documentation listed above, **Ecology has determined that the independent remedial action(s) conducted at the Site are likely to be sufficient to meet the substantive requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the arsenic contamination in soils at the Site, PROVIDED that:**

- *Confirmation samples for arsenic from the top 0-6 inches of soils after grading/excavation within each tract meet the MTCA cleanup standard, applying the 3-tiered statistical approach.*

- *Confirmation sampling density is increased to one sample per each five acres, with a minimum of 10 samples for any one tract, and additional focused sampling in proposed children's play*

areas. I also recommend each sample be obtained as a small scale composite, capturing soils from a small area (such as 10 square feet) to represent a given sample location.

- *For samples over the cleanup standard where overexcavation is proposed, a systematic approach should be provided to identify the areal extent to be overexcavated. For example, additional sampling to more accurately define the area over cleanup standard ,then use of Thiessen polygons or other method to establish boundaries.*

- *Stockpile sampling should be increased to one (composite, as described in the proposal) sample per each 1000 cubic yards, with a minimum of ten samples per stockpile.*

- *Disposal or reuse of stockpiled soils should be coordinated with local health department. Even where sample results indicate the stockpile meets the MTCA cleanup standards Ecology recommends re-use of stockpiled soils in contained areas such as underneath roads.*

This opinion does not represent a determination by Ecology that the proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit an independent remedial action report to Ecology upon completion of the remedial action and request such an opinion under the VCP. Completed remedial actions and requests for No Further Action Determinations for the proposed individual subdivision tracts should be submitted to Ecology as individual VCP applications. The VCP application for opinion on the Cleanup Action Plan and Site Characterization (Landau Associates, June 16, 2005), #SW0690, is considered by Ecology to be closed out with the issuance of this opinion letter. If you desire this application to remain open, please let me know immediately.

This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (360) 407-6260.

Sincerely,

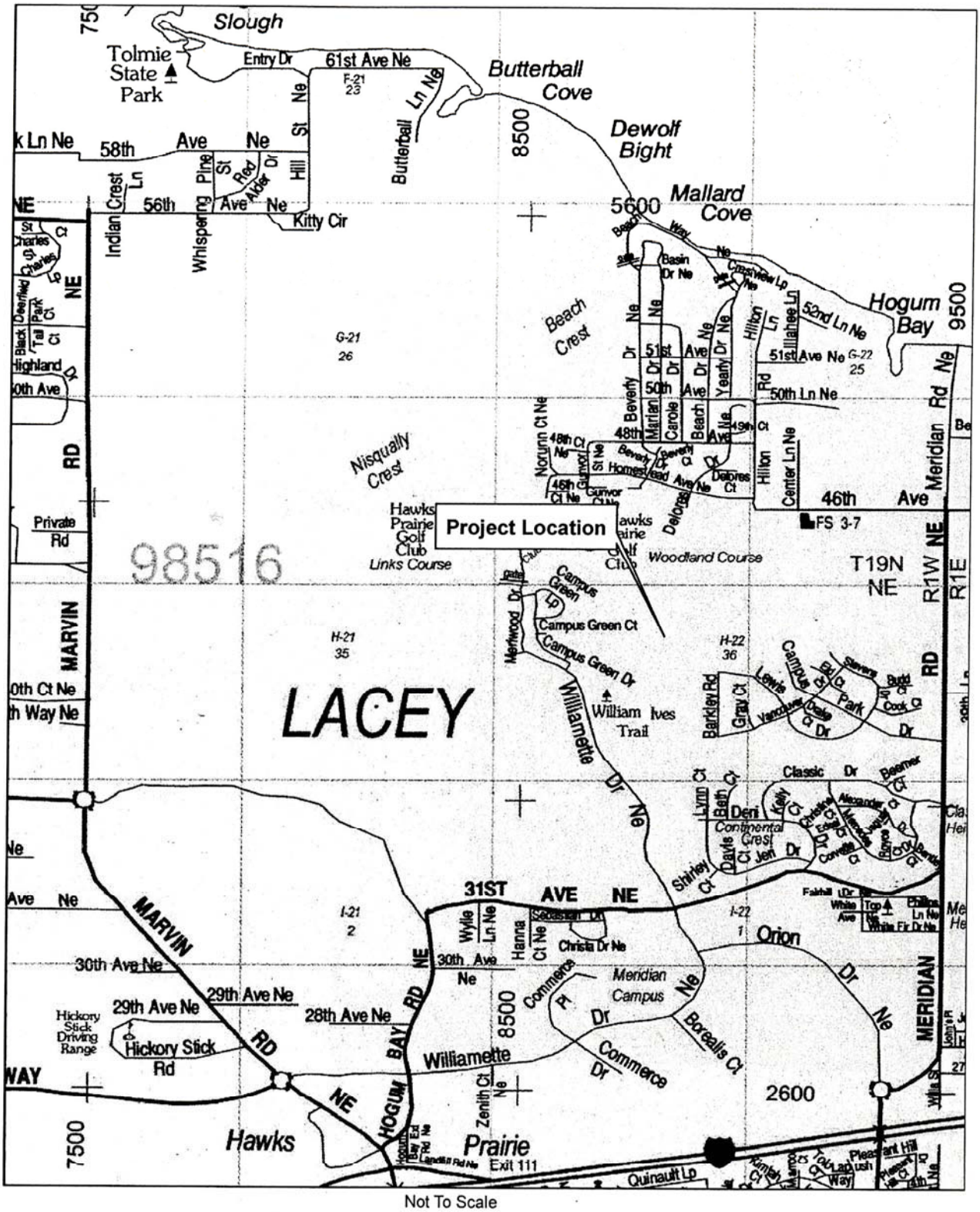
Joyce Mercuri, Site Manager
SWRO Toxics Cleanup Program

JM/ksc: Meridian campus proposed RA opinion letter

Enclosures: Enclosure A

Cc: Chuck Cline, Department of Ecology
Bob Warren, Department of Ecology
Trish Akana, Department of Ecology (SW0690)

ENCL. A



Not To Scale

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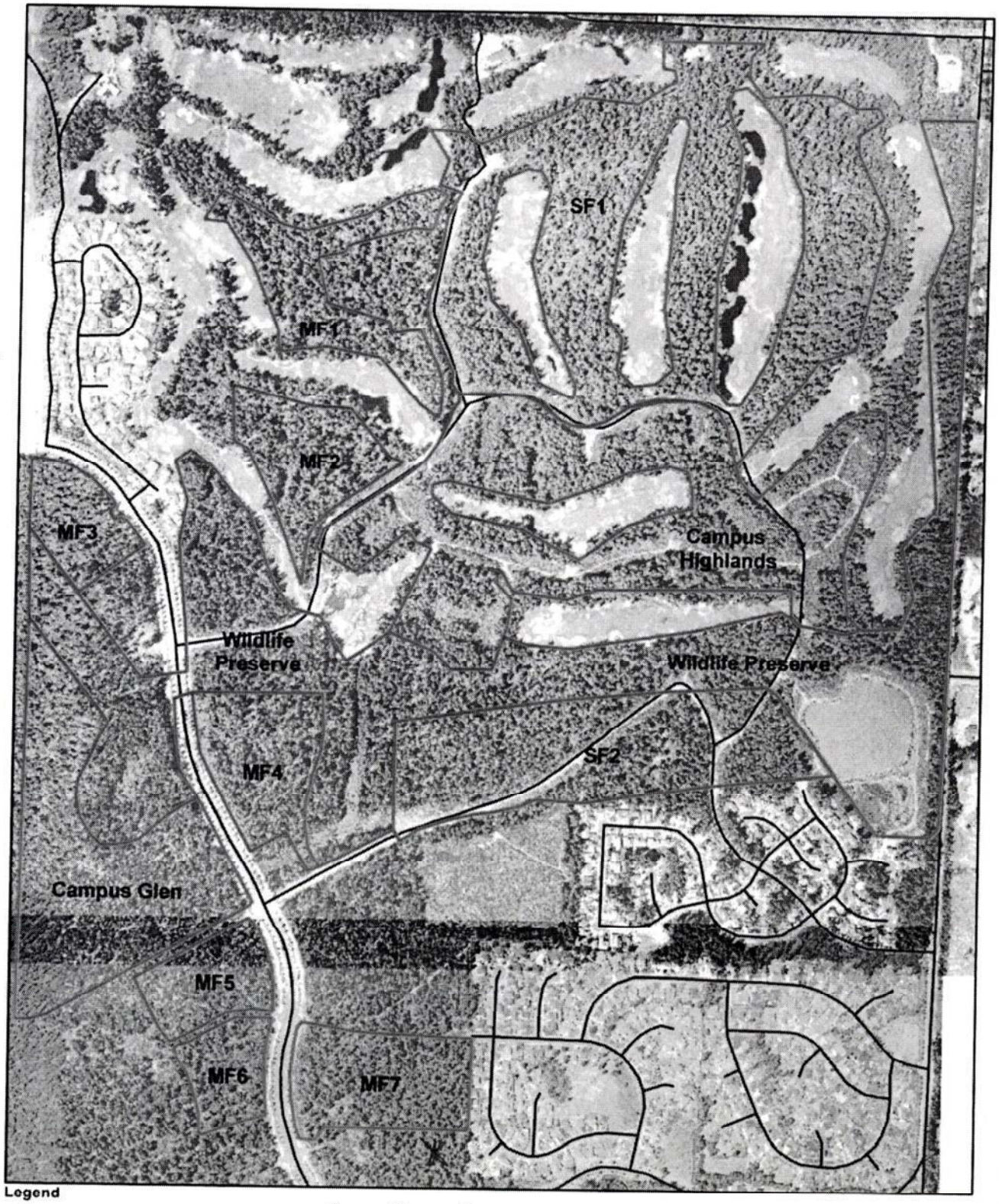
LANDAU ASSOCIATES	Meridian Campus Lacey, Washington	**Vicinity Map**	Figure 1

SW0690



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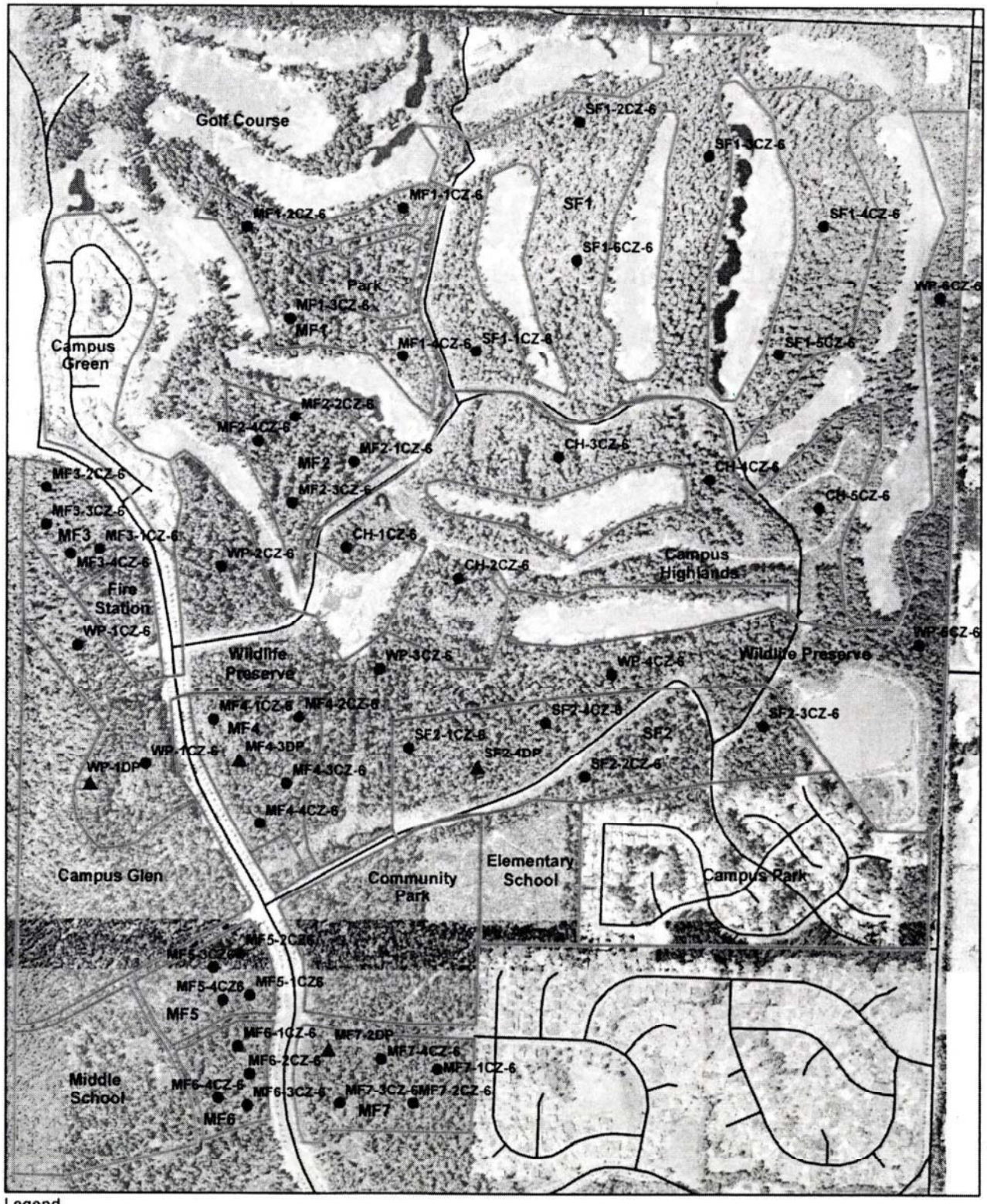
LANDAU ASSOCIATES

Meridian Campus Lacey, Washington	**Residential Development Area**	Figure 3



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LANDAU ASSOCIATES

Meridian Campus
Lacey, Washington

Characterization and Depth Profile Sample Locations

Figure
5

TABLE 1
RESIDENTIAL TRACTS
MERIDIAN CAMPUS

Tract	Acres
Campus Highlands (CH)	55
SF1	62
SF2	37
MF1	13.9
MF2	11.1
MF3	6.9
MF4	11.8
MF5	8
MF6	5.9
MF7	13.3
Wildlife Preserve (WP)	74

TABLE 2
SOIL ANALYTICAL RESULTS
MERIDIAN CAMPUS

Sample Number	Method	Laboratory	Lab ID	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
Site Characterization Samples						
CH-1CZ-6	ICP-MS	ARI	HV23K	3/10/2005	6.7	15
CH-2CZ-6	ICP-MS	ARI	HV55F	3/11/2005	27.0	99
CH-3CZ-6	ICP-MS	ARI	HV23T	3/10/2005	22.1	31
CH-4CZ-6	ICP-MS	ARI	HV55A	3/11/2005	27.1	125
CH-5CZ-6	ICP-MS	ARI	HV55B	3/11/2005	17.0	30
MF1-1CZ-6	ICP-MS	ARI	HV23O	3/10/2005	18.3	33
MF1-2CZ-6	ICP-MS	ARI	HV23N	3/10/2005	8.9	9
MF1-3CZ-6	ICP-MS	ARI	HV23M	3/10/2005	8.8	21
MF1-4CZ-6	ICP-MS	ARI	HV23L	3/10/2005	5.5	7
MF2-1CZ-6	ICP-MS	ARI	HV23J	3/10/2005	12.9	25
MF2-2CZ-6	ICP-MS	ARI	HV23I	3/10/2005	16.7	35
MF2-3CZ-6	ICP-MS	ARI	HV23G	3/10/2005	6.6	13
MF2-4CZ-6	ICP-MS	ARI	HV23H	3/10/2005	11.9	33
MF3-1CZ-6	ICP-MS	ARI	HV23B	3/10/2005	10.7	24
MF3-2CZ-6	ICP-MS	ARI	HV23D	3/10/2005	39.6	25
MF3-3CZ-6	ICP-MS	ARI	HV23C	3/10/2005	31.3	20
MF3-4CZ-6	ICP-MS	ARI	HV23A	3/10/2005	11.1	21
MF4-1CZ-6	ICP-MS	ARI	HV55O	3/11/2005	22.1	48
MF4-2CZ-6	ICP-MS	ARI	HV55M	3/11/2005	25.9	36
MF4-3CZ-6	ICP-MS	ARI	HV55N	3/11/2005	3.6	5
MF4-4CZ-6	ICP-MS	ARI	HV55Q	3/11/2005	11.7	6
MF4-4CZ-6-Dup	ICP-MS	ARI	HV55R	3/11/2005	9.2	5
MF5-1CZ-6	ICP-MS	ARI	HV56G	3/11/2005	17.1	37
MF5-2CZ-6	ICP-MS	ARI	HV56H	3/11/2005	10.4	16
MF5-3CZ-6	ICP-MS	ARI	HV56I	3/11/2005	25.1	46
MF5-4CZ-6	ICP-MS	ARI	HV56J	3/11/2005	36.9	146
MF6-1CZ-6	ICP-MS	ARI	HV56C	3/11/2005	50.7	133
MF6-2CZ-6	ICP-MS	ARI	HV56D	3/11/2005	14.6	25
MF6-3CZ-6	ICP-MS	ARI	HV56E	3/11/2005	12.5	18
MF6-4CZ-6	ICP-MS	ARI	HV56F	3/11/2005	34.8	81
MF7-1CZ-6	ICP-MS	ARI	HV56A	3/11/2005	23.4	44
MF7-2CZ-6	ICP-MS	ARI	HV55T	3/11/2005	14.6	24
MF7-3CZ-6	ICP-MS	ARI	HV55S	3/11/2005	11.7	26
MF7-4CZ-6	ICP-MS	ARI	HV56B	3/11/2005	36.2	116
SF1-1CZ-6	ICP-MS	ARI	HV23P	3/10/2005	19.3	11
SF1-2CZ-6	ICP-MS	ARI	HV23R	3/10/2005	16.5	29
SF1-3CZ-6	ICP-MS	ARI	HV23S	3/10/2005	10.0	19
SF1-4CZ-6	ICP-MS	ARI	HV28B	3/10/2005	12.6	26
SF1-5CZ-6	ICP-MS	ARI	HV28A	3/10/2005	16.5	43
SF1-6CZ-6	ICP-MS	ARI	HV23Q	3/10/2005	23.3	24
SF2-1CZ-6	ICP-MS	ARI	HV55K	3/11/2005	24.3	37
SF2-2CZ-6	ICP-MS	ARI	HV55I	3/11/2005	40.5	65
SF2-3CZ-6	ICP-MS	ARI	HV55G	3/11/2005	21.2	52
SF2-4CZ-6	ICP-MS	ARI	HV55J	3/11/2005	36.1	83
WP-1CZ-6	ICP-MS	ARI	HV23F	3/10/2005	10.3	7
WP-2CZ-6	ICP-MS	ARI	HV23E	3/10/2005	15.3	36
WP-3CZ-6	ICP-MS	ARI	HV55L	3/11/2005	12.1	15
WP-4CZ-6	ICP-MS	ARI	HV55H	3/11/2005	13.9	33
WP-5CZ-6	ICP-MS	ARI	HV55D	3/11/2005	17.7	19
WP-5CZ-6-Dup	ICP-MS	ARI	HV55E	3/11/2005	17.0	18
WP-6CZ-6	ICP-MS	ARI	HV55C	3/11/2005	19.2	43
WP-7CZ-6	ICP-MS	ARI	HV55P	3/11/2005	2.8	8

TABLE 2
SOIL ANALYTICAL RESULTS
MERIDIAN CAMPUS

Sample Number	Method	Laboratory	Lab ID	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)
Depth Profile Samples						
WP-1DP-6[a]	ICP-MS	STL	126321-7	2/1/2005	13.4	10.1
WP-1DP-6	ICP	STL	126106-19	2/1/2005	~~25.3~~	16.2
WP-1DP-12	ICP-MS	STL	126321-1	2/1/2005	2.55	5.15
WP-1DP-18	ICP-MS	STL	126321-2	2/1/2005	1.96	4.12
MF7-2DP-6	ICP	STL	126106-20	2/1/2005	21.2	15.8
MF7-2DP-12	ICP-MS	STL	126321-3	2/1/2005	5.02	9.88
MF7-2DP-18	ICP-MS	STL	126321-4	2/1/2005	4.37	5.16
MF4-3DP-6	ICP	STL	126106-21	2/1/2005	23	15.3
MF4-3DP-12	ICP-MS	STL	126321-5	2/1/2005	2.15	3.89
MF4-3DP-18	ICP-MS	STL	126321-6	2/1/2005	2.01	3.4
SF2-4DP-6	ICP	STL	126106-22	2/1/2005	5.49	2.4
Stockpile Sample Results						
SP-1-Comp	ICP	STL	126106-1	2/1/2005	12.2	12.7
SP-2-Comp	ICP	STL	126106-2	2/1/2005	13.4	11.5
SP-3-Comp	ICP	STL	126106-3	2/1/2005	9.65	6.87
SP-4-Comp	ICP	STL	126106-4	2/1/2005	9.56	6.23
SP-5-Comp	ICP	STL	126106-5	2/1/2005	11.5	8.12
SP-6-Comp	ICP	STL	126106-6	2/1/2005	16.5	17.2
SP-7-Comp	ICP	STL	126106-7	2/1/2005	10.2	8.05
SP-8-Comp	ICP	STL	126106-8	2/1/2005	11.9	9.00
SP-9-Comp	ICP	STL	126106-9	2/1/2005	8.46	3.97
SP-10-Comp	ICP	STL	126106-10	2/1/2005	12.3	10.7
Campus Glen Confirmation Samples						
CG-1CN-6	ICP	STL	126106-11	2/1/2005	4.19	3.77 ND
CG-2CN-6	ICP	STL	126106-12	2/1/2005	3.87	3.52 ND
CG-3CN-6	ICP	STL	126106-13	2/1/2005	3.97 ND	3.97 ND
CG-4CN-6	ICP	STL	126106-14	2/1/2005	4.51	3.44 ND
CG-5CN-6	ICP	STL	126106-15	2/1/2005	3.63	3.52 ND
CG-6CN-6	ICP	STL	126106-16	2/1/2005	4.69	4.27 ND
CG-7CN-6[a]	ICP-MS	STL	126106-17	2/1/2005	1.68	3.97 ND
CG-7CN-6	ICP	STL	126106-17	2/1/2005	31.2	3.97 ND
CG-8CN-6	ICP	STL	126106-18	2/1/2005	4.21 ND	4.21 ND
Characterization Sample Statistics						
Number of Samples					56	56
Mean Concentration:						
Geometric Mean					18.5	35.5
95th Upper Confidence Limit					15.8	24.9
					22.0	46.9

Notes:

Dup = duplicate sample.

= Sample was re-run by ICP-MS

ND = Result is the reporting limit, sample was non-detect at the reporting limit