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FINAL

CLOSURE REPORT
STUART MESA EAST AGRICULTURE FIELDS
August 24, 2009

MARINE CORPS BASE
CAMP PENDLETON, CALIFORNIA

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THE FOLLOWING APPENDIX IS NOT AVAILABLE:

- APPENDIX A – WASTE DISPOSAL MANIFESTS

EXTENSIVE RESEARCH WAS PERFORMED BY NAVFAC SOUTHWEST RECORDS OFFICE TO LOCATE THE MISSING APPENDIX.

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ABBREVIATIONS AND ACRONYMS

µg/kg	microgram per kilogram
Ag Fields	Stuart Mesa East Agriculture Fields
bgs	below ground surface
BMP	best management practice
COC	Chain-of-custody
CSM	conceptual site model
DEH	Department of Environmental Health
DON	Department of the Navy
DTSC	(California) Department of Toxic Substances Control
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
GPS	global positioning system
HASP	Health and Safety Plan
HSA	hydrologic subarea
Insight	Insight Environmental, Engineering and Construction, Inc.
MCB	Marine Corps Base
MS/MSD	matrix spike/matrix spike duplicate
NAVFACSW	Naval Facilities Engineering Command Southwest
OCP	organochlorine pesticide
PPV	Public Private Venture
PRG	preliminary remediation goal
RG	remedial goal
ROICC	Resident Officer in Charge of Construction
RSL	regional screening level
RWQCB	(California) Regional Water Quality Control Board
SAM	Site Assessment and Mitigation
Shaw	Shaw Environmental and Infrastructure, Inc.
SWPPP	Storm Water Pollution Prevention Plan
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

This Closure Report describes results from soil excavation activities conducted in a portion of the Stuart Mesa East Agriculture Fields (Ag Fields), located in the 31 Area of Marine Corps Base (MCB) Camp Pendleton, California (Figure 1). The Marine Corps is planning to construct military housing within a 60-acre portion of the Ag Fields. The proposed construction will be implemented through the U.S. Marine Corps Public Private Venture (PPV) Housing Program.

In preparation for future planned construction, soil containing organochlorine pesticides (OCPs) in concentrations exceeding the project remedial goals (RGs) was excavated and transported off site for appropriate disposal. Previous soil sampling was conducted by Shaw Environmental and Infrastructure, Inc. (Shaw) and APEX Companies LLC in 2008. To further guide soil removal activities, pre-excavation sampling was conducted by Insight Environmental, Engineering and Construction, Inc. (Insight) in 2009.

This Report was prepared by Insight under the Naval Facilities Engineering Command, Southwest Division (NAVFACSW) Contract No. N68711-01-D-6008, Delivery Order No. 0021.

This Report was prepared to meet the applicable requirements as specified in the *San Diego County Site Assessment and Mitigation Manual* (SAM) *2004* (San Diego County Department of Environmental Health [DEH], 2004). The local oversight agency for this site is the San Diego Regional Water Quality Control Board (RWQCB).

1.1 SITE IDENTIFICATION

Site Address:	Stuart Mesa East Agriculture Fields, 31 Area, MCB Camp Pendleton, CA 92055
Global ID No.:	T10000000991
Facility:	Agriculture Growing Fields
Property Owner:	United States Marine Corps, Base Box 555008 Camp Pendleton, CA 92055-5008
Responsible Party:	United States Marine Corps, Base Box 555008 Camp Pendleton, CA 92055-5008
MCB Camp Pendleton Contact:	Ms. Tracy Sahagun, Assistant Chief of Staff, Environmental, Security Building 22165 MCB Camp Pendleton, CA 92055-5008 (760) 725-9752

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1.2 PROJECT OBJECTIVE

The objective of the soil excavation activities was to remove soil containing OCPs above the respective RGs in order to reduce the threat to human health and the environment. The specific chemicals of concern at the site are toxaphene and dieldrin with RGs of 440 microgram per kilogram (μg/kg) and 24 μg/kg, respectively. The impacted soil was removed in the 40-acre footprint of the future housing development (Figure 2).

1.3 DESCRIPTION OF RELEASE

The site is located within the 376-acre agricultural growing fields. The fields have been used since the 1940s for agricultural purposes. As part of the past agricultural uses of the site, pesticides were applied in accordance with the approved/licensed application methods. Based on sampling and laboratory analysis, OCPs were detected in soil (Trevet, 2009a).

2.0 SITE BACKGROUND

The following sections provide a brief description of the site, local geology and hydrogeology, and a summary of previous site activities.

2.1 SITE DESCRIPTION

The Ag Fields are located in the 31 Area of MCB Camp Pendleton, immediately east of and adjacent to Interstate 5 (Figure 1). The site consists largely of an empty field that was leased for row crop farming. The Marine Corps plans to construct military housing for use by MCB Camp Pendleton personnel and their families on the site. The first phase, Phase VI, will be located within an approximate 60-acre portion of the fields, located in the central eastern portion of the Ag Fields (Figure 2). Housing will occupy an area of approximately 40 acres with a 15-acre detention and sediment control basin located to the west. Approximately 5 acres to the south of the housing development will be used as an equipment laydown area during construction.

2.2 HISTORIC AND FUTURE PLANNED SITE USE

The site has been leased for farming use since the 1940s to the present day. The MCB Camp Pendleton Master Plan defines the area as a potential future housing site (NAVFACSW, 2006). The site is planned for future redevelopment to include military family housing, a school, a retail area, a community center, and parks.

2.3 ADJACENT SITE USE

Land use in the vicinity consists of a few buildings and open space to the north and the Santa Margarita River to the south. The existing Stuart Mesa family housing area is located directly to the east. The Stuart Mesa Elementary School and Community Center are situated within the existing Stuart Mesa family housing area.

2.4 LOCAL TOPOGRAPHY, GEOLOGY AND HYDROGEOLOGY

MCB Camp Pendleton lies on the coastal plains at the southern end of the Santa Ana Mountains, within the Peninsular Range of southwestern California. The Ag Fields site is relatively flat, with no slopes greater than 15% and is located on a marine terrace once covered by natural vegetation (Innis-Tennebaum Architects, Inc. 1990; NAVFACSW, 2006). Shallow geology in this area is dominated by Marina loamy coarse sand with small areas of Gaviota fine sandy loan (U. S. Department of Agriculture [USDA], 1973). Based on site geology, groundwater is estimated to flow westerly and occur at an estimated depth of approximately 14 feet below ground surface (bgs) (NAVFACSW, 1999).

Groundwater beneath the Ag Fields lies near the border of the Santa Margarita Hydrologic Unit (southern portion) and the San Juan Hydrologic Unit (northern portion) in the Lower Ysidora Hydrologic Subarea (HSA) and the Stuart HSA, respectively. Groundwater in both these HSAs has beneficial uses, which include municipal and agricultural uses (RWQCB, 1994). Groundwater in this area is not used as a potable water source (Parsons, 2009). Based on Geographical Information System data provided by Dr. Rick Bottoms, Assistant Chief of Staff, Environmental Security, MCB Camp Pendleton, the nearest wells to the Ag Fields are Well No. 41613 and Well No. 2202. Well No. 41613 is 3.74 miles northwest of the site. The well was installed in 1952. Well No. 2202 is 3.01 miles northeast of the site. This well was installed in 1999 and is currently inactive. There are no downgradient wells.

The site is located within the Santa Margarita watershed. The surface water within this watershed drains through the Santa Margarita River, Murrieta Creek, and Temecula River. The only coastal lagoon is the Santa Margarita Lagoon, located across I-5 southwest of the Stuart Mesa area. Perennial surface water is not present at the site.

2.5 PREVIOUS WORK

2.5.1 Shaw Soil Sampling

Shaw Environmental and Infrastructure, Inc. collected soil samples from the entire 376-acre Ag Fields in April, June, and September 2008. Sampling methodology was based on the Department of Toxic Substances Control (DTSC) addendum to interim guidance for sampling agricultural fields for school sites (DTSC, 2003). A discrete sample was obtained from each acre of the site, with each set of four discrete samples composited by the analytical lab for laboratory analysis. Samples were initially collected at ground surface. Discrete samples were then collected in select areas to a depth of 2 to 3 feet bgs. All samples were analyzed for OCPs (Trevet, 2009a).

In September 2008, additional composited surface samples (0 to 0.5 feet) and corresponding deeper (1.5 to 2 feet) samples were collected. Based on the initial results, an additional 88 discrete subsurface soil samples (within the upper 3 feet bgs) and one composite surface soil sample were analyzed for toxaphene only (Trevet, 2009a). Finally, 39 discrete surface soil samples were collected and analyzed for arsenic. Soil was analyzed for arsenic due to possible use of arsenic in pesticides in the early 1900s. Arsenic levels were below background for the Santa Margarita Basin (NAVFACSW, 1997) and below the background threshold developed by DTSC (2008) (Trevet, 2009a).

2.5.2 APEX Soil Sampling

In September 2008, APEX (the contractor for the PPV) collected discrete soil samples only in the area planned for the 60-acre area of the Phase VI housing project. Approximately one sample

per acre was collected generally near the center of the acre grid (with exceptions). Samples were collected from the surface (0 to 0.5 feet bgs). Deeper sampling (1 to 2 feet and 2 to 3 feet bgs) was conducted at select sample locations. Toxaphene was found in soil above RGs in samples collected from 7 acres located within the Phase VI construction area. Sampling in the detention and sediment control basin portion of the proposed construction area was not conducted by APEX.

2.5.3 Pre-excavation Survey

Survey of each quarter-acre grid to be sampled prior to excavation was conducted on April 28, 2009 by Landmark Surveying. Survey stakes were placed at the four corners and in the center of each quarter-acre of interest.

2.5.4 Pre-excavation Sampling and QA Procedures

As part of the mitigation efforts, pre-excavation sampling was conducted by Insight between May 4, 2009 and May 20, 2009 in order to delineate areas of elevated OCP concentrations to be excavated. Locations for pre-excavation sampling were guided by previous sampling results from APEX and Shaw in 2008. Pre-excavation sampling was conducted in 32.5 acres containing OCPs at levels exceeding the RGs in the area of interest based on the 2008 laboratory data (Figure 3).

Five samples were collected at each depth interval (0-0.5 ft bgs and 1-1.5 ft bgs) per quarter-acre and were laboratory composited for analysis. The samples were generally collected near the center of each quarter-acre grid and at approximately the halfway point between the center and the respective corners. The deeper samples were laboratory composited and held pending the results of the shallow samples. If results from shallow samples showed concentrations above one or more RGs, then the corresponding deeper samples were also analyzed.

A deviation from the work plan (Trevet, 2009b) included the collection of samples from 8 quarter-acre grids (Grids A9 through A16) along the eastern edge of the site. These areas were excluded from previous sampling because they are located outside of the cultivated field and previously contained several small structures.

Pre-excavation samples were analyzed for OCPs by EPA Method 8081A. One matrix spike/matrix spike duplicate (MS/MSD) set was collected per 20 samples. Unless otherwise specified, QA procedures located in Appendix A of the Final Remediation Work Plan (Trevet, 2009b) were followed. Note that field duplicates were not required.

Sample locations were documented using a handheld Global Positioning System (GPS) device and/or surveyed by a State of California-licensed land surveyor.

2.6 NATURE AND EXTENT OF CONTAMINATION

Data from previous sampling indicated that soil has been impacted with toxaphene and dieldrin above the RGs. Based on pre-excavation sample results, it was estimated that approximately 32,700 tons of soil from 36 quarter-acre grids within the proposed housing footprint exceeded the project RGs for toxaphene and/or dieldrin (Figure 3). The depth of the impacted soil was estimated to range from the ground surface to approximately 2 feet bgs. The actual quantity of impacted soil removed from the site to meet the project objectives was approximately 37,205 tons. The depth of excavation within the 36 quarter-acre grids ranged from 1.33 to 3.5 feet bgs.

2.7 PRELIMINARY REMEDIATION GOALS/REGIONAL SCREENING LEVELS

The residential preliminary remediation goals (PRGs), also known as the residential regional screening levels (RSLs) for chemical contaminants at Superfund sites (EPA, September 2008), were reviewed and compared to soil results. Based on the results from previous sampling, toxaphene and dieldrin are the chemicals of concern. Remedial goals were calculated by Parsons (2009) using the USEPA modified toxicity values for both residents and military residents. The modified toxicity value for toxaphene was the same as the RSL at 440 μg/kg while the modified toxicity value for dieldrin was lower than the RSL (30 μg/kg) at 24 μg/kg. The more conservative value of 24 μg/kg was used (Table 1).

3.0 SOIL EXCAVATION OPERATIONS

Pesticide-impacted soil excavation was largely guided by pre-excavation sampling results. Soil was initially removed to a depth of approximately 2 feet bgs in quarter-acre grids where OCPs exceeded the RGs in both the shallow and deep pre-excavation samples, and to a depth of approximately 1 foot bgs in grids where OCPs exceeded the RGs in the shallow sample only Excavation was not performed in the 5-acre area immediately south of the proposed housing footprint (Grids A17/18 through H17/18). This area will be used as an equipment laydown area during construction and housing will not be built in this area at this time. Additional over-excavation of soil was conducted in select areas if confirmation sample results indicated contaminants were present above the RGs. The maximum depth of excavation was approximately 3.5 feet bgs. Approximately 37,205 tons of impacted soil was excavated at the site. The following sections describe the soil excavation operations.

3.1 PRE-EXCAVATION ACTIVITIES

3.1.1 Excavation Area Layout

Based on pre-excavation sampling results, the excavation area footprint was delineated (Figure 3). The haul truck route was located along the northeastern boundary of the site. Trucks entered from Stuart Mesa Road to the north, traversed in a southerly direction along the dirt road at the site, were loaded with soil by a front loader, and exited to Stuart Mesa Road via an access road further south. The truck route, as well as areas designated for equipment storage, soil stockpiling (or loading), and decontamination, were identified and approved by the Resident Officer in Charge of Construction (ROICC) prior to mobilization.

3.1.2 Underground Utility Survey

Insight coordinated with the ROICC and the MCB Camp Pendleton Facilities Maintenance Department to identify and mark all known utilities in the vicinity of the proposed excavation prior to the start of field activities. In addition, Insight contacted Underground Service Alert on May 11, 2009 to identify possible public utilities in the area. No utilities were identified in the vicinity of the proposed excavation during the Facilities Maintenance Department inspection conducted on May 13, 2009.

3.1.3 Site Preparation

Site preparation activities included:

- Establishing traffic routes, with approval from the ROICC, for vehicles and heavy equipment;
- Implementing health and safety procedures;

- Establishing areas for staging of equipment and materials;
- Setting up personnel and equipment decontamination facilities; and
- Establishing other temporary facilities that may include sanitary facilities and parking areas.
- Removing trees in grid areas A12 and B12 in order to facilitate soil excavation in that area.

3.1.4 Storm Water Pollution Prevention Plan

A Storm Water Pollution Prevention Plan (SWPPP) was prepared and implemented in the field during all excavation activities. Best management practices (BMPs) were employed to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site (Insight, 2009).

3.1.5 Health and Safety

A Site Health and Safety Plan (HASP) (Insight, 2007) was in effect throughout the excavation operation. Elements of this Plan included procedures for personal protection, personnel and equipment safety, medical surveillance, dust monitoring and general on-site work practices. Additionally the Plan contained provisions for potential emergency situations.

3.2 SOIL EXCAVATION

Soil excavation began on May 27, 2009 and was completed on July 14, 2009. A Caterpillar bulldozer was used to remove pesticide-impacted soils with concentrations above the RGs from portions of the Ag Fields based on pre-excavation sampling results. The bulldozer was used to remove the soil within each quarter-acre grid to the target depth and place the soil in a temporary stockpile. Front-end loaders were used to load the excavated soil directly into trucks for immediate transport to an off-Base disposal facility. A water truck was used for dust control in the area of excavation and also on the haul road.

Soil was excavated in 36 quarter-acre grids that contained OCP concentrations above the project RGs based on pre-excavation sampling. Confirmation samples were collected from the floor of each grid after the target excavation depth was reached per methodology described in the Work Plan (Trevet, 2009b). If laboratory analysis of the confirmation sample reported OCP concentrations above the project RGs, additional soil was removed from the floor of the entire grid and an additional confirmation sample was collected. This over-excavation process continued until the RGs were met at each grid. In some areas, over-excavation was conducted two or three times until soil was removed to a maximum depth of approximately 3.5 feet bgs (Figure 4). A total of 37,205 tons of impacted soil were removed during this project.

3.3 CONFIRMATION SAMPLE COLLECTION

Confirmation samples were collected near the surface from the excavated quarter-acre areas. Confirmation samples were placed into clean, 8-ounce glass jars and chilled to 4 ± 2 °C. Samples were labeled according to the grid location with the letters "CON" denoting a confirmation sample (i.e., A08-CON, B09-CON, etc.). A chain-of-custody (COC) form was completed and signed by the field crew and courier for sample transport to the laboratory.

If confirmation sample results showed the presence of OCP concentrations above RGs, additional excavation (about 4 inches to 1 foot) and re-sampling were conducted in the entire quarter-acre grid. In some cases, over-excavation was conducted several times to achieve the desired results (i.e., soil below the RGs).

3.3.1 Confirmation Sampling Protocol

Five confirmation soil samples were collected per quarter-acre from the floor of the excavation. Samples were generally collected near the center of the grid and at random locations between the center and the four corners. The laboratory composited the five samples into one sample prior to analysis. A disposable sampling scoop was used for each sample location. Sampling methods and protocols were described in the Remediation Work Plan (Trevet, 2009b).

3.3.2 Analytical Testing Program and QA Procedures

The samples were sent to EMAX Laboratories in Torrance, California for analysis of OCPs by Method 8081A. One MS/MSD set was collected for every 20 samples. Equipment blanks were not collected due to the use of disposable sampling equipment.

3.4 DECONTAMINATION FACILITIES

All soil samples were collected using new disposable equipment and placed in clean sampling containers provided by the laboratory. Therefore, no equipment decontamination was required between sampling points. Equipment used to excavate pesticide-impacted soil was decontaminated prior to leaving the site. A temporary equipment decontamination pad, consisting of a bermed polyethylene liner, was constructed to facilitate collection of the wastewater. The pad was used for the rinsing and decontamination of all equipment that came into contact with contaminated soil.

Because of the potential for exposure to contaminated soil, provisions were made for personnel decontamination. The decontamination process and equipment required are described in the Site HASP (Insight, 2007). The Site Health and Safety Specialist was responsible for maintaining compliance with the HASP.

3.5 WASTE MANAGEMENT

On May 29, 2009 and June 1, 2009, approximately 3,745 tons of excavated soil was transported by a licensed waste-hauler to Western Environmental, Inc. in Mecca, California as non-hazardous waste. Between June 10 and July 29, 2009, approximately 32,376 tons of excavated soil was transported to Otay Landfill in Otay, California for disposal as non-hazardous waste. Approximately 1,084 tons of additional soil generated at Grids A12, A13, and A16 was utilized as test soil for a toxaphene treatability study that is currently being conducted at the site. Waste disposal manifests are presented in Appendix A.

The soil transported to Western Environmental and Otay Landfill contained similar concentrations of toxaphene. All soil transported off-Base during this project was classified as non-hazardous waste based on the results of representative soil samples. Both facilities are approved to accept this non-hazardous material. However, the Navy made a decision to transport the majority of the soil to Otay Landfill, a lined landfill, due to concerns that the treatment process proposed by Western Environmental could potentially produce chlorobornanes as a byproduct. The soil that was initially transported to Western Environmental will be analyzed for organochlorine pesticides and chlorobornanes after treatment is complete to confirm that the treatment process was successful.

3.6 SITE RESTORATION AND DEMOBILIZATION

Final restoration activities included breakdown and removal of all materials and equipment associated with the work. Backfilling in soil excavation areas was not required. Final surface grading of the soil excavation areas will be conducted as part of the residential construction project that is scheduled to begin in late October 2009.

Due to the existing topography and the nature of the large shallow excavations at the site, surface water flows toward the agriculture field and will not exit the construction area. The construction area will be inspected periodically and during any rain events to determine the need for additional dust or erosion BMPs prior to the start of the residential construction project.

4.0 RESULTS

Approximately 37,205 tons of pesticide-impacted soil was excavated at the site. Approximately 36,121 tons of soil was transported off Base for disposal, and approximately 1,084 tons of soil was utilized for a toxaphene treatability study that is currently being performed at another area in the Ag Fields. Results of pre-excavation and post-excavation confirmation soil sampling are presented in Tables 2 and 3 and on Figures 3 and 4, respectively.

4.1 PRE-EXCAVATION SOIL SAMPLING

A total of 130 shallow soil samples were collected at a depth of 0 to 0.5 feet bgs. Based on the laboratory results, 47 of the shallow soil samples contained toxaphene concentrations exceeding the RG of 440 µg/kg and 8 of the shallow samples contained dieldrin concentrations exceeding the RG of 24 µg/kg. Toxaphene concentrations reported above the RG ranged from 450 to 3,600 µg/kg, with the highest concentration reported in the shallow sample collected from Grid A12. Dieldrin results above the RG ranged from 55 to 280 µg/kg.

Based on the results of the shallow samples, 48 of the archived deep samples collected at a depth of 1 to 1.5 feet bgs were analyzed for OCPs. Toxaphene was detected at concentrations exceeding the RG in 44 of the deep samples and dieldrin was detected at concentrations above the RG in 8 of the deep samples. Toxaphene concentrations reported above the RG ranged from 450 to 5,500 µg/kg, with the highest concentration reported in the deep sample collected from Grid A12. Dieldrin results above the RG ranged from 30 to 220 µg/kg.

Aldrin was also detected above the RG of 29 µg/kg in the shallow samples collected from Grids B12 (65 µg/kg) and E1 (44 µg/kg). The shallow samples from these two grids also contained toxaphene concentrations exceeding the RG. Pre-excavation laboratory results are summarized in Table 2 and Figure 3.

4.2 CONFIRMATION SOIL SAMPLING

After excavation was completed to the target depth at each quarter-acre grid, confirmation samples were collected. Laboratory results of initial confirmation samples collected from 27 of the 36 grids indicated that all OCP concentrations were below the respective RGs. Toxaphene concentrations in the remaining 9 initial confirmation samples ranged from 500 µg/kg to 2,700 µg/kg and dieldrin concentrations ranged from 25 µg/kg to 120 µg/kg. Post-excavation confirmation sample results are summarized in Table 3 and Figure 4

Based on the results of the initial confirmation samples, additional excavation was performed at 9 of the quarter-acre grids. The depth of each over-excavation ranged from 4 inches to 1 foot below the surface of the excavation. Additional confirmation samples were collected after each

over-excavation of a grid. In some cases more than one over-excavation event was required to obtain soil results below the RGs.

4.2.1 Over-Excavated Areas

After soil removal, if the initial confirmation sampling result was greater than the RG for one or more constituents, over-excavation was conducted (one or more times). Each over-excavation consisted of removing an additional 4 inches to 1 foot of soil in the entire quarter-acre. Over-excavation results are summarized below:

Sample (Grid) Number	Excavation Sequence	Excavation Depth	Toxaphene Result (µg/kg)	Dieldrin Result (µg/kg)
		Action Levels:	**440**	**24**
A10	Initial	1'	1,400	27
	First Over-Ex	2'	430	48
	Final	2'8"	430	19
A12	Initial	2'	1,100	96
	First Over-Ex	3'	760	72
	Final	3'6"	130U	10U
A13	Initial	2'	2,700	120J
	Final	3'	130 U	24
A14	Initial	1'	210	25
	Final	1'4"	130U	6J
A16	Initial	1'	2,000	66
	First Over-Ex	2'	2,500	190
	Final	2'6"	130U	10U
B10	Initial	2'	540	18
	Final	2'8"	160	8.1J
B11	Initial	2'	420	55
	First Over-Ex	2'8"	500	38
	Final	3'4"	90J	7.9J
E9	Initial	2'	570	21U
	Final	2'8"	290	10U
F9	Initial	2'	500	10U
	Final	2'8"	150	10U

Notes:

J = estimated value

U = not detected at or above the stated limit

Highlighted values indicate results exceeding project action levels.

4.3 DATA VALIDATION

Data was validated prior to use per guidelines set forth in the National Functional Guidelines for Organic Data Review (United States Environmental Protection Agency [USEPA], 1999). The data validation reports are included herein as Appendix B (pre-excavation sampling) and Appendix C (confirmation sampling). Data was validated at 90% USEPA Level III and 10% USEPA Level IV. Level IV follows protocols and criteria established in the functional guidelines for evaluating organic and inorganic analyses (USEPA, 1999; 2004). Overall data qualification was minor and all data was useable. Some data received "J" flag (estimated) data qualifiers for minor quality control issues.

4.4 EXPOSURE CONCERNS

A conceptual site model (CSM) presents the links between contaminant sources, the chemicals detected, the mechanisms for chemical transport or migration, and the persons potentially exposed. A CSM that identifies potential sources, mechanisms of transport, environmental media of concern, and exposure routes for current and future human receptors at the site is shown on Figure 5. The likely human receptors include residents, commercial workers, school staff, students, construction workers, and visitors. Potential migration pathways largely include airborne dust and soil reaching residents and construction workers. Residents are the receptor group with the highest potential for exposures at the site. Construction workers also have a higher potential for exposures to dusts than any other receptor. The migration pathway to groundwater was considered an incomplete exposure pathway due to the fact that groundwater is not used as a potable source (Parsons, 2009).

5.0 SUMMARY AND CONCLUSIONS

In order to reduce the threat to human health and the environment, 37,205 tons of soil exceeding the project RGs was excavated at the site. A total of 36,121 tons of the soil was properly transported off-Base for disposal and 1084 tons of soil was used as test soil for a toxaphene treatability study at another portion of the Ag Fields. Analytical results from confirmation samples indicate that soil containing OCPs above RGs has been removed from the sampling areas.

Based on evaluations presented in this report, the Department of the Navy (DON) recommends closure and requests concurrence by the RWQCB.

6.0 REFERENCES

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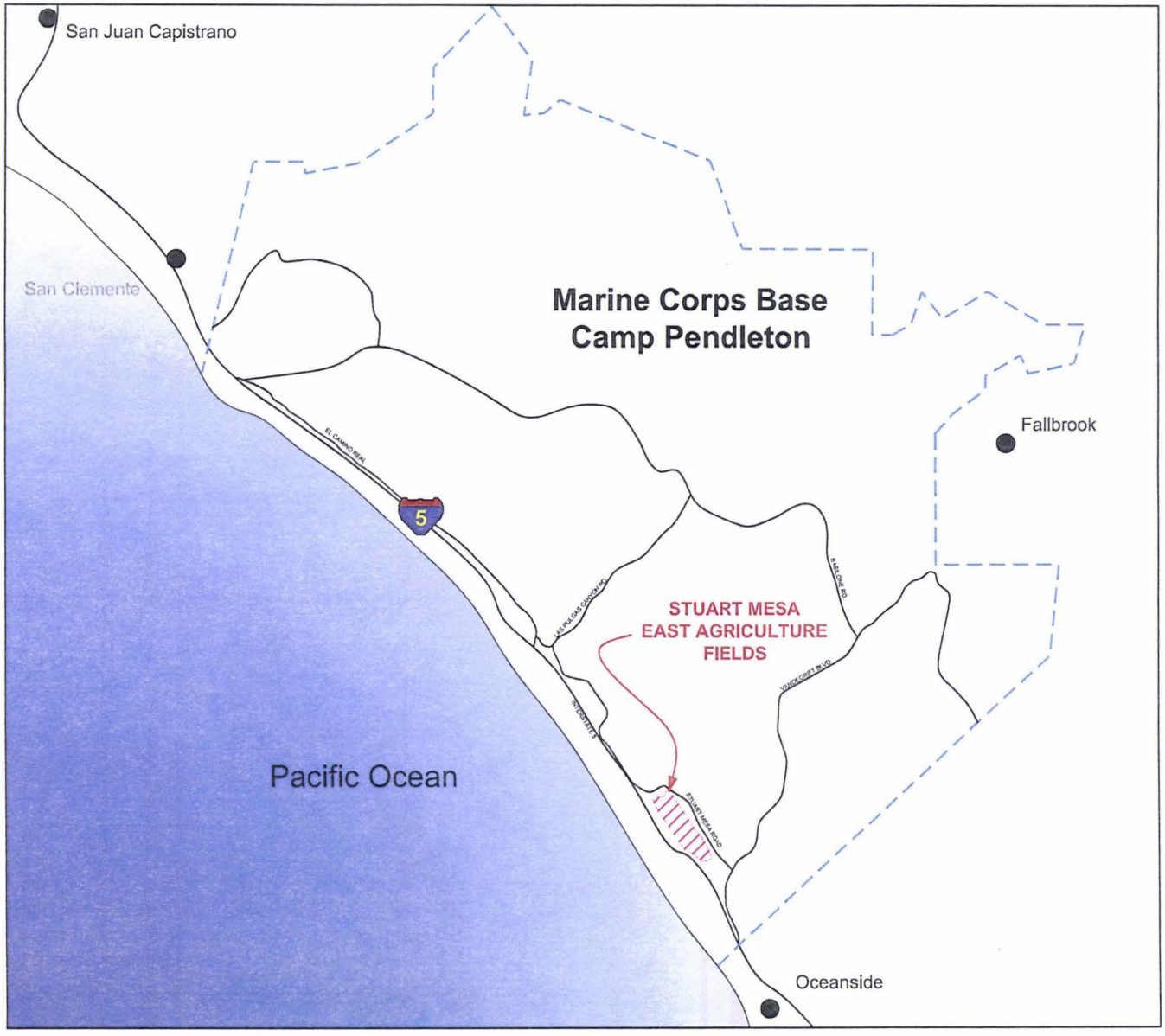
FIGURES

NO	DATE	REVISION		CH	APPROVED



0 36,000

Approximate Scale in Feet

LEGEND:

- MARINE CORP BASE CAMP PENDLETON BOUNDARY
- CITY
- ROAD

N

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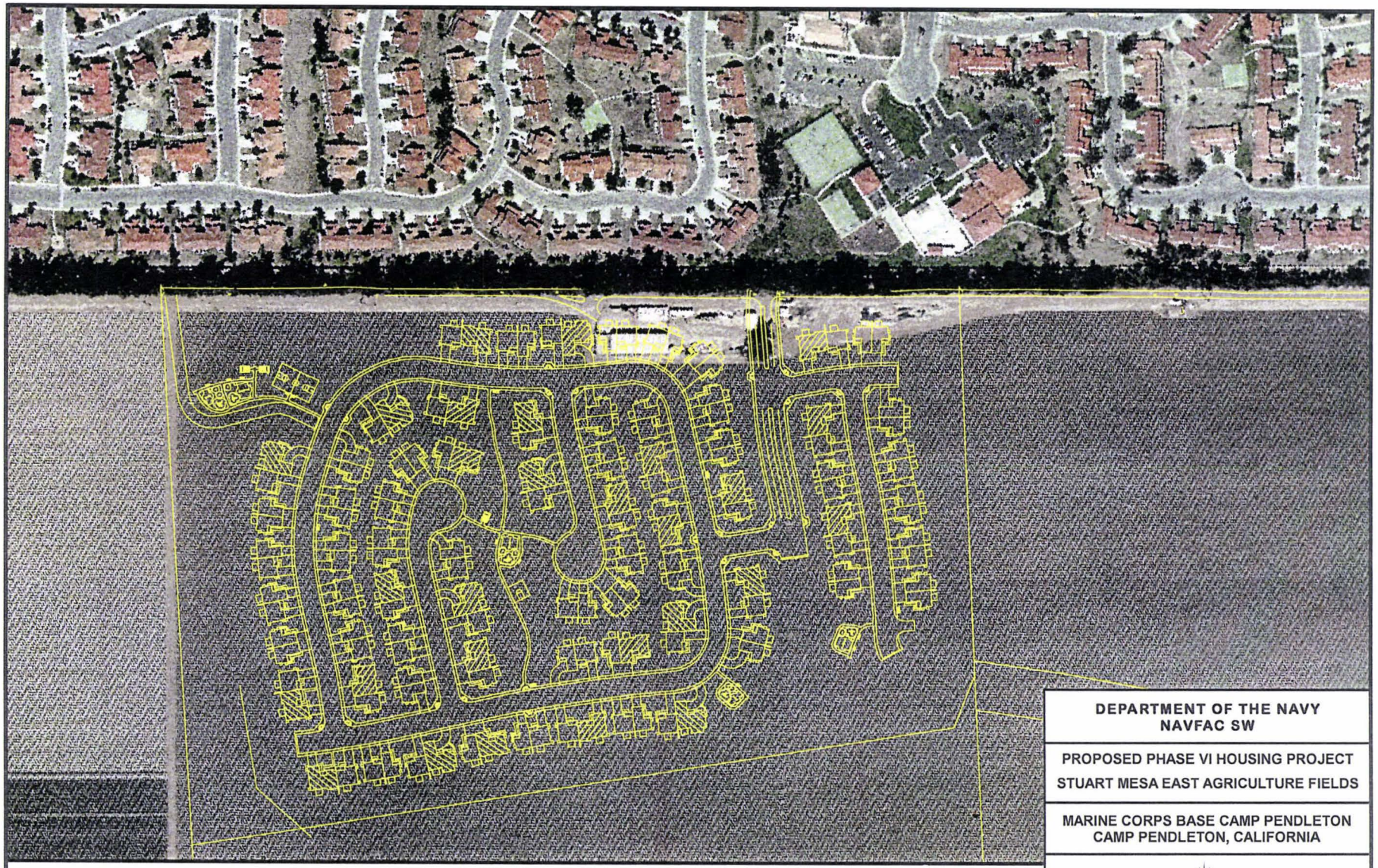
NAVFAC SW

SITE VICINITY MAP
STUART MESA EAST AGRICULTURE FIELDS

MARINE CORPS BASE CAMP PENDLETON
CAMP PENDLETON, CALIFORNIA

INSIGHT
Environmental, Engineering and Construction, Inc.
3010 EAST MIRALOMA AVENUE
ANAHEIM, CALIFORNIA, 92806-1810
PHONE: (714) 678-6700 FAX: (714) 678-6711

DRAWN BY: S.Y	CHECKED BY: TONY-F	DATE: 08-11-2009
APPROVED:		PROJECT NO.: 4-20002
SIZE D	SCALE: AS NOTED	DRAWING NO. FIGURE 1



0 150 300 600 Feet

1 inch = 300 feet

Proposed Housing

Imagery: 1-foot resolution, 2007; Housing Data: Hunt Lincoln Clark, 2009

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PROPOSED PHASE VI HOUSING PROJECT
STUART MESA EAST AGRICULTURE FIELDS

MARINE CORPS BASE CAMP PENDLETON
CAMP PENDLETON, CALIFORNIA

INSIGHT
Environmental, Engineering and Construction, Inc.
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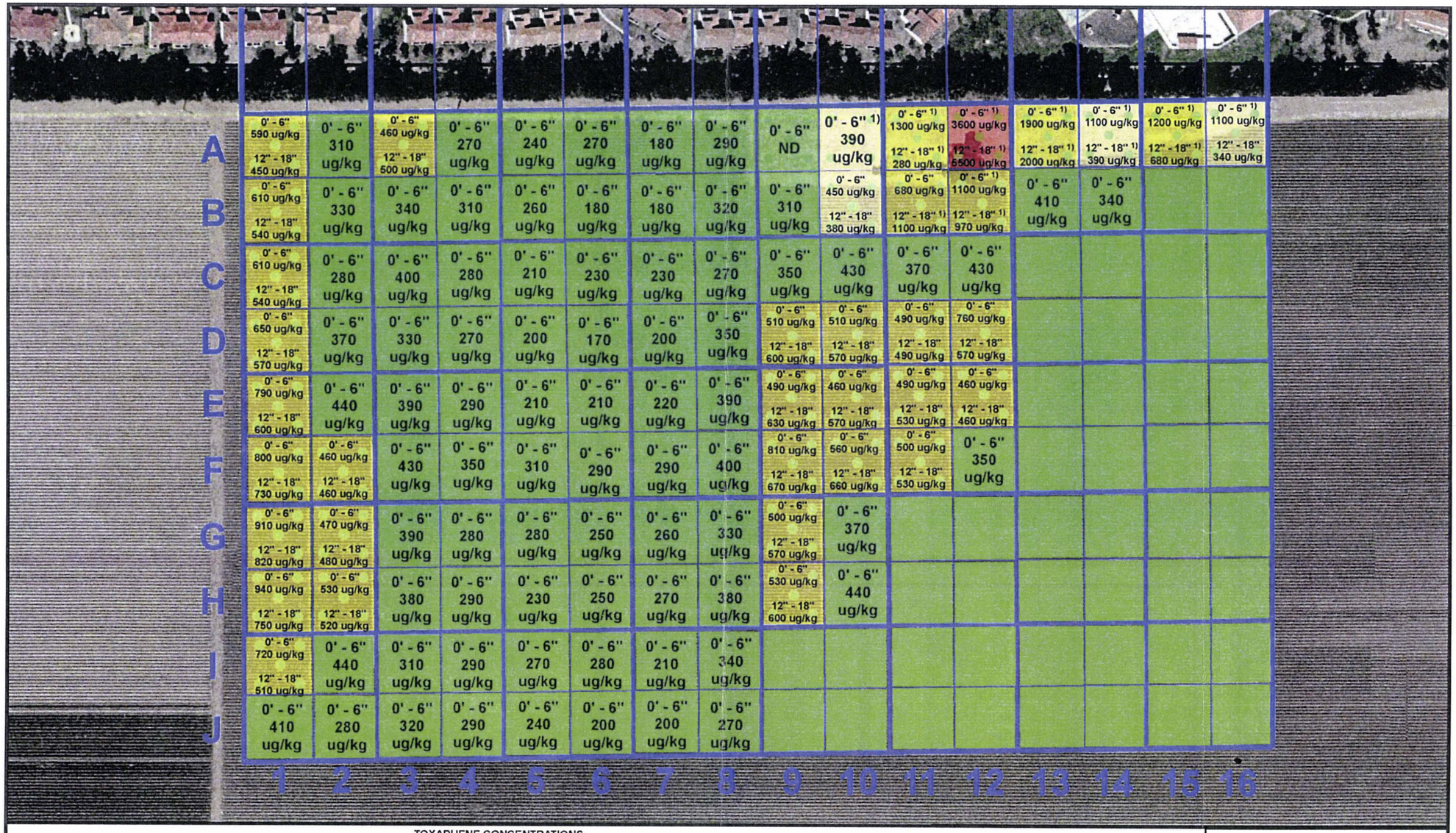
ANAHEIM, CA 92806
PHONE: (714) 678-6700

AUGUST 2009 | **FIGURE 2**



Notes:

1-Acre Grid

1/4-Acre Grid

Approximate Random Sample Location

Two samples were collected at each location; one at a depth of 0' - 6" and one at a depth of 12" - 18".

The five depth-specific samples from each grid were composited into one sample by the laboratory prior to analysis.

TOXAPHENE CONCENTRATIONS

- 0' - 6" 620 ug/kg — Toxaphene or Dieldrin Exceeds Remedial Goals in Shallow Sample (Deep Sample Below RGs), Toxaphene Results are Shown
- 0' - 6" 1300 ug/kg 12" - 18" 640 ug/kg — Toxaphene or Dieldrin Exceeds Remedial Goals in Shallow and Deep Sample, Toxaphene Results are Shown
- 0' - 6" 330 ug/kg — Toxaphene and Dieldrin at or Below Remedial Goals Based on Shallow Sample Results, Toxaphene Results are Shown
- Toxaphene at or Below Remedial Goals Based on Previous Sampling Performed by Apex and Shaw between April and September 2008
- 0' - 6" 3600 ug/kg 12" - 18" 5500 ug/kg — Toxaphene at or Above 5,000 ug/kg

1) Dieldrin exceeds the Remedial Goal of 24 ug/kg

Feet

0 50 100 200 300

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PRE-EXCAVATION SOIL SAMPLE RESULTS
STUART MESA EAST AGRICULTURE FIELDS

MARINE CORPS BASE CAMP PENDLETON
CAMP PENDLETON, CALIFORNIA

INSIGHT
Environmental, Engineering and Construction, Inc.
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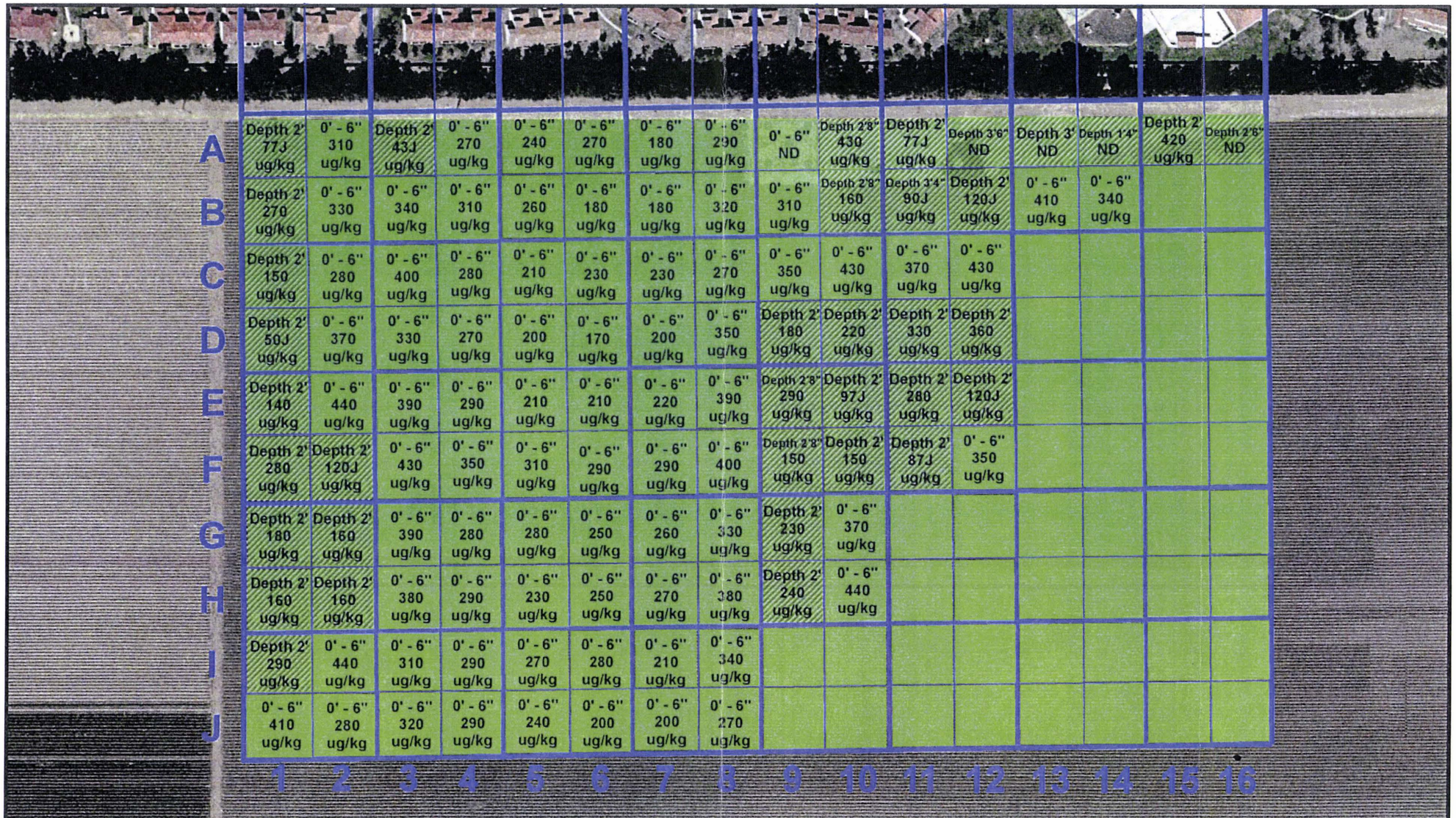
AUGUST 2009 | FIGURE 3



Notes:

- 1-Acre Grid
- 1/4-Acre Grid
- Approximate Sample Location
- Depth 2' 330 ug/kg — Toxaphene and Dieldrin at or Below Remedial Goals Based on Post-Excavation Confirmation Sample Results, Toxaphene Results are shown
- 0' - 6" 330 ug/kg — Toxaphene and Dieldrin at or Below Remedial Goals Based on Pre-Excavation Shallow Sample Results, Toxaphene Results are shown
- Toxaphene at or Below Remedial Goals Based on Previous Sampling Performed by Apex and Shaw between April and September 2008

Confirmation Samples = One five-point composite sample collected from the floor of each 1/4-acre grid

Feet
0 50 100 200 300

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POST-EXCAVATION (CONFIRMATION)
SOIL SAMPLE RESULTS
STUART MESA EAST AGRICULTURE FIELDS

MARINE CORPS BASE CAMP PENDLETON
CAMP PENDLETON, CALIFORNIA

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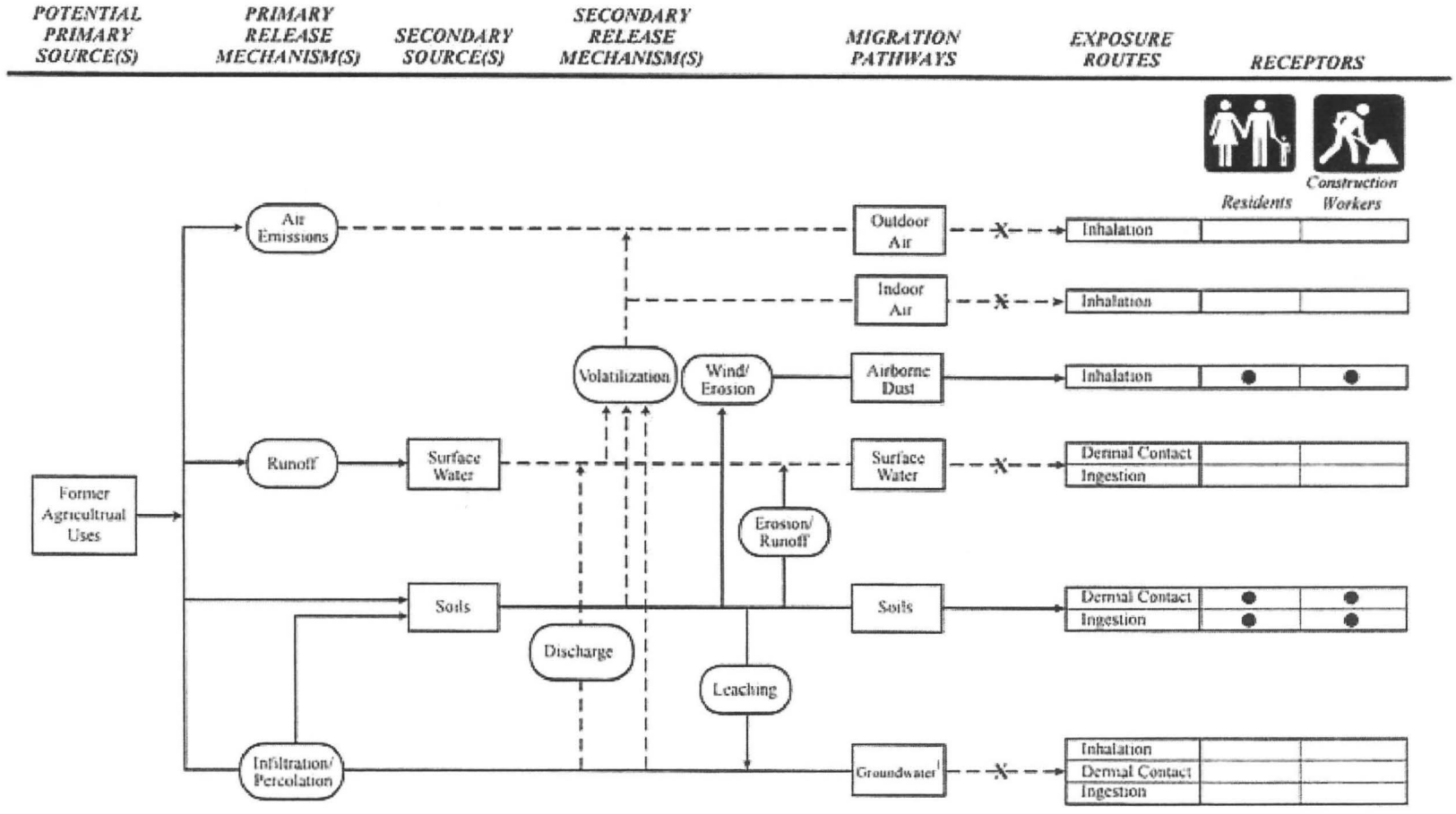
AUGUST 2009 | FIGURE 4



Legend

- Potentially complete exposure pathway
- Potentially incomplete exposure pathway
- Incomplete exposure pathway
- ● Potentially complete exposure route
- [1] Groundwater not assumed to be used as potable water source

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CONCEPTUAL SITE MODEL
STUART MESA EAST AGRICULTURE FIELDS

MARINE CORPS BASE CAMP PENDLETON
CAMP PENDLETON, CALIFORNIA

INSIGHT
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AUGUST 2009 | FIGURE 5

TABLES

Table 1
Stuart Mesa East Agriculture Fields
Pesticides Reference Limits in Soil
MCB Camp Pendleton, California

Analyte	Project Action Limit* (µg/kg)	Project Reporting Limit (µg/kg)	Analytical Method MDLs (µg/kg)	Analytical Method QLs (µg/kg)
4,4'-DDD	2400	4	1.2	30
4,4'-DDE	1700	4	1.2	3
4,4'-DDT	1700	4	1.2	3
Aldrin	29	2	0.6	1.5
alpha-BHC	90	2	0.6	1.5
alpha-chlordane	1600[a]	2	0.6	1.5
beta-BHC	320	2	0.6	1.5
delta-BHC	NA	2	0.6	1.5
Dieldrin	24	4	1.2	3
Endosulfan I	370,000	2	0.6	1.5
Endosulfan II	370,000	4	1.2	3
Endosulfan Sulfate	NE	4	1.5	3.75
Endrin	18,000	4	1.2	3
Endrin Aldehyde	NE	4	1.2	3
Endrine Keytone	NE	4	1.2	3
gamma-BHC (Lindane)	440	2	0.6	1.5
gamma-chlordane	1600[a]	2	0.6	1.5
Heptachlor	110	2	0.6	1.5
Heptachlor Epoxide	53	2	0.6	1.5
Methoxychlor	310,000	20	4	10
Toxaphene	440	50	10	25

Notes:

* Federal Residential Preliminary Remediation Goal for Soil (EPA Region 9, September 2008) except for dieldrin for which the project action is the remedial goal for residents and military residents using the USEPA modified toxicity values (refer to HHRA Parsons, 2009)

a– Soil PRG for Chlordane

MDL = method detection limit, range shown where applicable

NE – Not Established

QL = quantification limit

Table source: Parsons, 2009.

Table 2
Organochlorine Pesticides in Pre-Excavation Samples
Proposed Phase VI Housing Project, Stuart Mesa East Agricultural Fields
MCB Camp Pendleton, California

Sample ID[a)]	Depth	Organochlorine Pesticides (EPA Method 8081A)																				
		4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-Chlordane	Beta-BHC	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Gamma-BHC (Lindane)	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Project Action Limit[b)]:		2400	1700	1700	29	90	1600[c)]	320	NE	24	370000	370000	NE	18000	NE	NE	440	1600[c)]	110	53	310000	440
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
A1X	0" - 6"	8.7 J	62	97	5.2 U	5.2 U	11	5.2 U	5.2 U	6.1 J	5.2 U	9.1 J	10 U	10 U	25	10 U	5.2 U	4.3 J	5.2 U	5.2 U	52 U	590
A1Y	12" - 18"	5.9 J	54	74	5.2 U	5.2 U	10	5.2 U	5.2 U	4.8 J	5.2 U	7.4 J	10 U	10 U	20	10 U	5.2 U	3.8 J	5.2 U	5.2 U	52 U	450
A2X	0" - 6"	10 U	44	52	5.1 U	5.1 U	8.7	5.1 U	5.1 U	4.1 J	5.1 U	6.2 J	10 U	10 U	14	10 U	5.1 U	3.4 J	5.1 U	5.1 U	51 U	310
A3X	0" - 6"	10 U	57	78	5.1 U	5.1 U	13	5.1 U	5.1 U	5.7 J	5.1 U	8.1 J	10 U	10 U	19	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	460
A3Y	12" - 18"	3.2 J	52	75	2.1 U	2.1 U	16	2.1 U	3.0	5.2	2.1 U	9.8	4.1 U	4.1 U	20	4.1 U	2.1 U	6.9	2.1 U	2.1 U	5.5 J	500
A4X	0" - 6"	10 U	39	57	5.1 U	5.1 U	9.4	5.1 U	5.1 U	4.0 J	5.1 U	6.7 J	10 U	10 U	13	10 U	5.1 U	3.6 J	5.1 U	5.1 U	51 U	270
A5X	0" - 6"	10 U	39	47	5.1 U	5.1 U	7.2	5.1 U	5.1 U	10 U	5.1 U	4.2 J	10 U	10 U	11	10 U	5.1 U	3.3 J	5.1 U	5.1 U	51 U	240
A6X	0" - 6"	10 U	37	46	5.1 U	5.1 U	7.7	5.1 U	5.1 U	10 U	5.1 U	5.1 J	10 U	10 U	11	10 U	5.1 U	3.2 J	5.1 U	5.1 U	51 U	270
A7X	0" - 6"	10 U	28	36	5.1 U	5.1 U	5.5	5.1 U	2.6 J	5.6 J	5.1 U	3.7 J	10 U	10 U	8.1 J	10 U	5.1 U	2.0 J	5.1 U	5.1 U	51 U	180
A8X	0" - 6"	10 U	64 J	54 J	5.1 U	5.1 U	6.7 J	5.1 U	15	5.9 J	5.1 UJ	10 U	10 U	10 U	10 U	10 U	5.1 U	2.6 J	5.1 U	5.1 U	51 U	290
A9X	0" - 6"	10 U	35	4.1 J	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	130 U
A10X	0" - 6"	21 U	160	210	10 U	10 U	10 U	11	7.5 J	70	10 U	9.3 J	21 U	21 U	21 U	21 U	10 U	10 U	10 U	10 U	100 U	390
A10Y	12" - 18"	10 U	12	10 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	130 U
A11X	0" - 6"	29 J	180	160	20 U	20 U	21	20 U	20 U	79	20 U	29 J	41 U	41 U	41 U	41 U	20 U	20 U	20 U	20 U	200 U	1300
A11Y	12" - 18"	10 U	72	46	5.1 U	5.1 U	5.1 U	4.7 J	5.1 U	50	5.1 U	4.0 J	10 U	10 U	10 U	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	280
A12X	0" - 6"	110	150	920	51 U	51 U	51 U	28 J	23 J	280	51 U	51 J	100 U	100 U	84 J	100 U	51 U	51 U	51 U	51 U	510 U	3600
A12Y	12" - 18"	150 J	180 J	1100 J	51 UJ	51 UJ	51 UJ	42 J	23 J	220 J	51 UJ	83 J	100 UJ	100 UJ	140 J	100 UJ	51 UJ	51 UJ	51 UJ	51 UJ	510 UJ	5500 J
A13X	0" - 6"	81 U	440	870	41 U	41 U	95	20 J	75	220	41 U	81 U	81 U	81 U	81 U	81 U	41 U	38 J	41 U	41 U	410 U	1900
A13Y	12" - 18"	41 U	310	330	21 U	21 U	25	21 U	44	120	21 U	22 J	41 U	41 U	48	41 U	21 U	13 J	21 U	21 U	210 U	2000
A14X	0" - 6"	41 U	320	260	21 U	21 U	56	21 U	48	98	21 U	15 J	41 U	41 U	35 J	41 U	21 U	22	21 U	21 U	210 U	1100
A14Y	12" - 18"	21 U	110	71	10 U	10 U	10 U	10 U	6.4 J	30	10 U	21 U	21 U	21 U	14 J	21 U	10 U	10 U	10 U	10 U	100 U	390
A15X	0" - 6"	41 U	380	200	21 U	21 U	55	8.0 J	53	110	21 U	15 J	41 U	41 U	34 J	41 U	21 U	21	21 U	21 U	210 U	1200
A15Y	12" - 18"	21 U	190	210	10 U	10 U	10 U	8.7 J	93	190	10 U	10 J	21 U	21 U	23	21 U	10 U	10 U	10 U	10 U	100 U	680
A16X	0" - 6"	41 U	290	200	21 U	21 U	31	21 U	23	55	21 U	22 J	41 U	41 U	38 J	41 U	21 U	11 J	21 U	21 U	210 U	1100
A16Y	12" - 18"	11 U	85	51	5.3 U	5.3 U	7.1	5.3 U	3.1 J	15	5.3 U	5.8 J	11 U	11 U	13	6.4 J	5.3 U	2.9 J	5.3 U	5.3 U	53 U	340
A17X	0" - 6"	10 U	64	52 J	5.1 U	5.1 U	5.1 U	5.1 U	14	11	5.1 U	11	10 U	10 U	21	20	5.1 U	5.1 U	5.1 U	5.1 U	51 U	490
A17Y	12" - 18"	41 U	200 J	130 J	21 U	21 U	17 J	21 U	21	31 J	21 U	22 J	41 U	41 U	45 J	41 U	21 U	21 U	21 U	21 U	210 U	1200
A18X	0" - 6"	29	180	190	10 U	10 U	10 U	10 U	20	20 J	10 U	25	21 U	21 U	57	21 U	10 U	10 U	10 U	10 U	100 U	1300
A18Y	12" - 18"	7.7 J	70	41	5.3 U	5.3 U	5.3 U	5.3 U	7.1	10 J	5.3 U	11	6.4 J	11 U	26	11 U	5.3 U	5.3 U	5.3 U	5.3 U	53 U	540
B1X	0" - 6"	8.7 J	56	76	5.1 U	5.1 U	9.7	5.1 U	3.2 J	4.1 J	5.1 U	8.9 J	10 U	10 U	26	10 U	5.1 U	4.4 J	5.1 U	5.1 U	51 U	610
B1Y	12" - 18"	10 U	57	74	5.2 U	5.2 U	11	5.2 U	3.5 J	6.3 J	5.2 U	10 J	10 U	10 U	24	10 U	5.2 U	4.3 J	5.2 U	5.2 U	52 U	540
B2X	0" - 6"	10 U	38	45	5.1 U	5.1 U	8.2	5.1 U	3.8 J	10 U	5.1 U	6.5 J	10 U	10 U	13	10 U	5.1 U	3.6 J	5.1 U	5.1 U	51 U	330
B3X	0" - 6"	10 U	47	58	5.1 U	5.1 U	12	5.1 U	4.3 J	4.0 J	5.1 U	6.9 J	10 U	10 U	15	10 U	5.1 U	4.2 J	5.1 U	5.1 U	51 U	340
B4X	0" - 6"	10 U	41	52	5.1 U	5.1 U	14	5.1 U	2.2 J	10 U	5.1 U	5.4 J	10 U	10 U	12	10 U	5.1 U	5.4	5.1 U	5.1 U	51 U	310
B5X	0" - 6"	10 U	31	41	5.1 U	5.1 U	11	3.7 J	5.1 U	10 U	5.1 U	10 U	10 U	10 U	9.2 J	10 U	5.1 U	4.4 J	5.1 U	5.1 U	51 U	260
B6X	0" - 6"	10 U	25	31	5.1 U	5.1 U	9.4	5.1 U	4.0 J	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	3.1 J	5.1 U	5.1 U	51 U	180
B7X	0" - 6"	10 U	23	26	5.1 U	5.1 U	7.0	5.1 U	3.5 J	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	2.9 J	5.1 U	5.1 U	51 U	180
B8X	0" - 6"	10 U	50 J	57 J	5.1 U	5.1 U	13 J	5.1 U	3.3 J	5.1 J	5.1 UJ	5.3 J	10 U	10 U	11	10 U	5.1 U	4.3 J	5.1 U	5.1 U	51 U	320
B9X	0" - 6"	10 U	80 J	80 J	5.1 U	5.1 U	14 J	5.1 U	3.1 J	7.0 J	5.1 UJ	6.3 J	10 U	10 U	10 U	10 U	5.1 U	4.0 J	5.1 U	5.1 U	51 U	310
B10X	0" - 6"	10 U	69	87 J	5.1 U	5.1 U	31	5.1 U	9.3	15	5.1 U	8.3 J	10 U	10 U	17	10 U	5.1 U	9.3	5.1 U	5.1 U	51 U	450
B10Y	12" - 18"	10 U	70 J	71 J	5.2 U	5.2 U	30	5.2 U	4.8 J	13 J	5.2 U	6.1 J	10 U	10 U	14 J	10 U	5.2 U	9.2	5.2 U	5.2 U	52 U	380
B11X	0" - 6"	6.8 J	92	110 J	5.1 U	5.1 U	27	2.4 J	10	21	5.1 U	17	10 U	10 U	27	10 U	5.1 U	8.7	5.1 U	5.1 U	51 U	680
B11Y	12" - 18"	5.6 J	92 J	120 J	5.2 U	5.2 U	5.2 U	5.2 U	8.3	35 J	5.2 U	16	10 U	10 U	31 J	10 U	5.2 U	12	5.2 U	5.2 U	52 U	1100
B12X	0" - 6"	41 U	85	140 J	65	20 U	20 U	20 U	260	80	20 U	19 J	41 U	41 U	34 J	41 U	20 U	20 U	20 U	20 U	200 U	1100
B12Y	12" - 18"	10 U	110 J	130 J	17	5.1 U	30	7.8	130	52 J	5.1 U	12	6.0 J	10 U	26 J	10 U	5.1 U	13	5.1 U	5.1 U	51 U	970
B13X	0" - 6"	10 U	80	71 J	5.0 U	5.0 U	19	2.9 J	10	21	5.0 U	10 U	10 U	10 U	14	10 U	5.0 U	5.8	5.0 U	5.0 U	50 U	410
B14X	0" - 6"	10 U	75	62 J	5.0 U	5.0 U	18	5.0 U	7.1	19	5.0 U	10 U	10 U	10 U	12	10 U	5.0 U	4.9 J	5.0 U	5.0 U	50 U	340

Table 2
Organochlorine Pesticides in Pre-Excavation Samples
Proposed Phase VI Housing Project, Stuart Mesa East Agricultural Fields
MCB Camp Pendleton, California

Sample ID[a)]	Depth	Organochlorine Pesticides (EPA Method 8081A)																				
		4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-Chlordane	Beta-BHC	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Gamma-BHC (Lindane)	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Project Action Limit[b)]:		2400	1700	1700	29	90	1600[c)]	320	NE	24	370000	370000	NE	18000	NE	NE	440	1600[c)]	110	53	310000	440
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
B17X	0" - 6"	10 U	70	52 J	5.2 U	5.2 U	11	2.2 J	6.3	14	5.2 U	10 J	9.1 J	10 U	23	10 U	5.2 U	3.2 J	5.2 U	5.2 U	52 U	540
B17Y	12" - 18"	10 U	84 J	72 J	5.2 U	5.2 U	9.8	5.2 U	11	19 J	5.2 U	11	10 U	10 U	42 J	10 U	5.2 U	22	5.2 U	5.2 U	52 U	820
B18X	0" - 6"	13	58	40	5.1 U	5.1 U	5.1 U	5.1 U	5.0 J	10 U	5.1 U	16	10 U	10 U	33	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	660
B18Y	12" - 18"	4.5 J	66 J	47 J	5.2 U	5.2 U	5.2 U	5.2 U	3.4 J	10 U	5.2 U	14	10 U	9.1 J	33	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	730
C1X	0" - 6"	6.6 J	63	71	5.1 U	5.1 U	10	5.1 U	4.2 J	4.5 J	5.1 U	9.3 J	10 U	10 U	27	10 U	5.1 U	4.4 J	5.1 U	5.1 U	51 U	610
C1Y	12" - 18"	10 U	60	68	5.2 U	5.2 U	9.7	5.2 U	3.1 J	5.4 J	5.2 U	9.8 J	10 U	10 U	24	10 U	5.2 U	3.8 J	5.2 U	5.2 U	52 U	540
C2X	0" - 6"	10 U	38	41	5.1 U	5.1 U	5.1 U	5.1 U	3.1 J	10 U	5.1 U	5.6 J	10 U	10 U	12	10 U	5.1 U	2.4 J	5.1 U	5.1 U	51 U	280
C3X	0" - 6"	10 U	45	48	5.1 U	5.1 U	8.6	5.1 U	2.6 J	4.6 J	5.1 U	5.7 J	10 U	10 U	13	10 U	5.1 U	3.8 J	5.1 U	5.1 U	51 U	400
C4X	0" - 6"	10 U	44	42	5.1 U	5.1 U	9.3	5.1 U	3.5 J	10 U	5.1 U	4.8 J	10 U	10 U	11	10 U	5.1 U	3.1 J	5.1 U	5.1 U	51 U	280
C5X	0" - 6"	10 U	29	32	5.1 U	5.1 U	9.1	5.1 U	3.6 J	10 U	5.1 U	10 U	10 U	10 U	7.8 J	10 U	5.1 U	3.0 J	5.1 U	5.1 U	51 U	210
C6X	0" - 6"	10 U	26	28	1.9 J	5.2 U	9.7	5.5	4.4 J	3.5 J	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	4.4 J	5.2 U	5.2 U	52 U	230
C7X	0" - 6"	3.3 J	30	29	5.1 U	5.1 U	10	5.1 U	2.6 J	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	4.4 J	5.1 U	5.1 U	51 U	230
C8X	0" - 6"	10 U	45 J	50 J	5.1 U	5.1 U	14 J	5.1 U	3.4 J	10 U	5.1 UJ	10 U	10 U	10 U	8.8 J	10 U	5.1 U	4.1 J	5.1 U	5.1 U	51 U	270
C9X	0" - 6"	10 U	86 J	76 J	5.1 U	5.1 U	22 J	5.1 U	6.8	5.3 J	5.1 UJ	6.2 J	10 U	10 U	11	10 U	5.1 U	6.0 J	5.1 U	5.1 U	51 U	350
C10X	0" - 6"	11 U	120	89 J	5.3 U	5.3 U	30	2.8 J	12	14	5.3 U	9.5 J	11 U	11 U	11 U	11 U	5.3 U	8.7	5.3 U	5.3 U	53 U	430
C11X	0" - 6"	14	92	73 J	5.1 U	5.1 U	25	5.1 U	5.1	11	5.1 U	7.0 J	10 U	10 U	14	10 U	5.1 U	7.0	5.1 U	5.1 U	51 U	370
C12X	0" - 6"	10 U	99	89 J	5.0 U	5.0 U	25	2.7 J	6.9	16	5.0 U	8.2 J	10 U	10 U	15	10 U	5.0 U	7.4	5.0 U	5.0 U	50 U	430
C17X	0" - 6"	10 U	48	35 J	5.1 U	5.1 U	5.1 U	5.1 U	3.8 J	7.3 J	5.1 U	9.5 J	10 U	10 U	18	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	370
C18X	0" - 6"	9.2 J	49	42	5.1 U	5.1 U	5.1 U	5.1 U	2.9 J	10 U	5.1 U	15	5.0 J	10 U	30	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	570
C18Y	12" - 18"	9.2 J	45 J	30 J	5.1 U	5.1 U	5.1 U	5.1 U	4.7 J	10 U	5.1 U	12	9.5 J	10 U	27	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	590
D1X	0" - 6"	8.9 J	63	82	5.1 U	5.1 U	15	5.1 U	2.7 J	4.4 J	5.1 U	10 J	10 U	10 U	27	10 U	5.1 U	5.7	5.1 U	5.1 U	51 U	650
D1Y	12" - 18"	10 U	60	84	5.2 U	5.2 U	15	5.2 U	3.5 J	6.4 J	5.2 U	9.6 J	10 U	10 U	24	10 U	5.2 U	5.7	5.2 U	5.2 U	52 U	570
D2X	0" - 6"	10 U	45	52	5.1 U	5.1 U	9.5	5.1 U	3.7 J	10 U	5.1 U	7.4 J	10 U	10 U	15	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	370
D3X	0" - 6"	10 U	47	47	5.1 U	5.1 U	8.6	5.1 U	3.1 J	3.4 J	5.1 U	5.9 J	10 U	10 U	15	10 U	5.1 U	3.1 J	5.1 U	5.1 U	51 U	330
D4X	0" - 6"	10 U	40	37	5.1 U	5.1 U	8.3	5.1 U	4.5 J	10 U	5.1 U	4.4 J	10 U	10 U	11	10 U	5.1 U	2.7 J	5.1 U	5.1 U	51 U	270
D5X	0" - 6"	5.4 J	27	28	5.1 U	5.1 U	6.9	5.1 U	7.3	10 U	5.1 U	10 U	10 U	10 U	7.1 J	10 U	5.1 U	2.7 J	5.1 U	5.1 U	51 U	200
D6X	0" - 6"	10 U	24	25	5.1 U	5.1 U	5.1 U	5.1 U	3.7 J	10 U	5.1 U	10 U	10 U	10 U	5.6 J	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	170
D7X	0" - 6"	10 U	29	29	5.1 U	5.1 U	7.9	5.1 U	3.3 J	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	2.9 J	5.1 U	5.1 U	51 U	200
D8X	0" - 6"	10 U	53 J	57 J	5.1 U	5.1 U	12 J	5.1 U	3.5 J	10 U	5.1 UJ	5.4 J	10 U	10 U	10 J	4.2 J	5.1 U	4.2 J	5.1 U	5.1 U	51 U	350
D9X	0" - 6"	16 U	120 J	100 J	8.1 U	8.1 U	28 J	8.1 U	3.7 J	6.6 J	8.1 UJ	6.7 J	16 U	16 U	18	16 U	8.1 U	7.8 J	8.1 U	8.1 U	81 U	510
D9Y	12" - 18"	20 U	160	120	10 U	10 U	38	10 U	6.1 J	20 U	10 U	8.5 J	20 U	20 U	20 J	20 U	10 U	9.9 J	10 U	10 U	100 U	600
D10X	0" - 6"	20 U	140	110 J	10 U	10 U	36	10 U	5.9 J	8.6 J	10 U	20 U	20 U	20 U	18 J	20 U	10 U	9.9 J	10 U	10 U	100 U	510
D10Y	12" - 18"	20 U	160 J	140 J	10 U	10 U	43	10 U	5.4 J	20 U	10 U	20 U	20 U	20 U	18 J	20 U	10 U	11	10 U	10 U	100 U	570
D11X	0" - 6"	10 U	120	120 J	5.0 U	5.0 U	29	5.0 U	2.4 J	8.8 J	5.0 U	6.1 J	6.2 J	10 U	10 U	10 U	5.0 U	8.2	5.0 U	5.0 U	50 U	490
D11Y	12" - 18"	22	160 J	120 J	10 U	10 U	37	10 U	4.5 J	20 U	10 U	20 U	20 U	20 U	17 J	20 U	10 U	9.1 J	10 U	10 U	100 U	490
D12X	0" - 6"	10 U	110	95 J	5.0 U	5.0 U	26	5.0 U	4.3 J	10	5.0 U	7.3 J	10 U	10 U	14	10 U	5.0 U	8.8	5.0 U	5.0 U	50 U	760
D12Y	12" - 18"	10 U	130 J	130 J	5.1 U	5.1 U	34	5.1 U	7.0	18 J	5.1 U	9.8 J	10 U	10 U	26 J	10 U	5.1 U	9.6	5.1 U	5.1 U	51 U	570
D17X	0" - 6"	10 U	42	31 J	5.0 U	5.0 U	5.0 U	5.0 U	3.1 J	10 U	5.0 U	7.2 J	10 U	10 U	17	10 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	320
D18X	0" - 6"	8.9 J	47	42	5.1 U	5.1 U	5.1 U	5.1 U	3.9 J	10 U	5.1 U	14	10 U	10 U	29	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	530
D18Y	12" - 18"	10 U	48 J	32 J	5.1 U	5.1 U	5.1 U	5.1 U	2.9 J	10 U	5.1 U	11	10 U	10 U	27	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	570
E1X	0" - 6"	10 J	69	110	44	5.1 U	21	5.1 U	5.6	5.3 J	5.1 U	10	10 U	10 U	30	10 U	5.1 U	8.5	5.1 U	5.1 U	51 U	790
E1Y	12" - 18"	10 U	58	99	5.2 U	5.2 U	18	5.2 U	5.2 U	6.0 J	5.2 U	9.9 J	10 U	10 U	24	10 U	5.2 U	7.9	5.2 U	5.2 U	52 U	600
E2X	0" - 6"	10 U	50	74	5.1 U	5.1 U	13	5.1 U	3.9 J	4.3 J	5.1 U	7.5 J	10 U	10 U	17	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	440
E2Y	12" - 18"	10 U	53	82	5.2 U	5.2 U	14	5.2 U	4.5 J	10 U	5.2 U	7.3 J	10 U	10 U	17	10 U	5.2 U	5.3	5.2 U	5.2 U	52 U	430
E3X	0" - 6"	10 U	49	63	12	5.1 U	13	5.1 U	6.5	5.0 J	5.1 U	6.2 J	10 U	10 U	14	10 U	5.1 U	4.8 J	5.1 U	5.1 U	51 U	390
E4X	0" - 6"	10 U	37	42	5.1 U	5.1 U	11	5.1 U	4.2 J	3.3 J	5.1 U	5.0 J	10 U	10 U	11	10 U	5.1 U	4.0 J	5.1 U	5.1 U	51 U	290
E5X	0" - 6"	10 U	26	33	5.1 U	5.1 U	8.9	5.1 U	3.9 J	10 U	5.1 U	10 U	10 U	10 U	7.3 J	10 U	5.1 U	3.0 J	5.1 U	5.1 U	51 U	210

Table 2
Organochlorine Pesticides in Pre-Excavation Samples
Proposed Phase VI Housing Project, Stuart Mesa East Agricultural Fields
MCB Camp Pendleton, California

Sample ID[a)]	Depth	Organochlorine Pesticides (EPA Method 8081A)																				
		4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-Chlordane	Beta-BHC	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Gamma-BHC (Lindane)	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Project Action Limit[b)]:		2400	1700	1700	29	90	1600[c)]	320	NE	24	370000	370000	NE	18000	NE	NE	440	1600[c)]	110	53	310000	440
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
E6X	0" - 6"	10 U	26	30	5.1 U	5.1 U	8.8	5.1 U	5.1 U	10 U	5.1 U	10 U	10 U	10 U	6.4 J	10 U	5.1 U	3.3 J	5.1 U	5.1 U	51 U	210
E7X	0" - 6"	10 U	34	39	5.1 U	5.1 U	9.2	5.1 U	3.5 J	10 U	5.1 U	10 U	10 U	10 U	7.6 J	10 U	5.1 U	3.2 J	5.1 U	5.1 U	51 U	220
E8X	0" - 6"	10 J	61 J	67 J	5.1 U	5.1 U	15 J	5.1 U	5.1 U	10 U	5.1 UJ	5.8 J	10 U	10 U	11	10 U	5.1 U	5.4 J	5.1 U	5.1 U	51 U	390
E9X	0" - 6"	16 J	130 J	120 J	8.1 U	8.1 U	8.1 U	8.1 U	8.1 U	16 U	8.1 UJ	16 U	16 U	16 U	18	16 U	8.1 U	8.1 U	8.1 U	8.1 U	81 U	490
E9Y	12" - 18"	21 U	170	140	10 U	10 U	44	10 U	5.5 J	21 U	10 U	9.8 J	21 U	21 U	21	21 U	10 U	12	10 U	10 U	100 U	630
E10X	0" - 6"	40 U	160	140 J	20 U	20 U	37	20 U	20 U	40 U	20 U	40 U	40 U	40 U	40 U	40 U	20 U	10 J	20 U	20 U	200 U	460 J
E10Y	12" - 18"	19 J	180 J	160 J	10 U	10 U	44	10 U	5.0 J	21 U	10 U	21 U	21 U	21 U	17 J	21 U	10 U	11	10 U	10 U	100 U	570
E11X	0" - 6"	20 U	160	150 J	10 U	10 U	34	10 U	10 U	20 U	10 U	20 U	20 U	20 U	15 J	20 U	10 U	9.6 J	10 U	10 U	100 U	490
E11Y	12" - 18"	19 J	200 J	160 J	10 U	10 U	43	10 U	5.4 J	20 U	10 U	20 U	20 U	20 U	16 J	20 U	10 U	12	10 U	10 U	100 U	530
E12X	0" - 6"	10 U	120	130 J	5.1 U	5.1 U	28	3.5 J	3.5 J	8.1 J	5.1 U	7.7 J	10 U	10 U	13	10 U	5.1 U	8.3	5.1 U	5.1 U	51 U	460
E12Y	12" - 18"	10 U	130 J	130 J	5.1 U	5.1 U	31	2.5 J	5.8	9.1 J	5.1 U	7.1 J	10 U	10 U	14 J	10 U	5.1 U	8.5	5.1 U	5.1 U	51 U	460
E17X	0" - 6"	10 U	54	46	5.1 U	5.1 U	5.1 U	3.4 J	3.1 J	10 U	5.1 U	12	9.6 J	10 U	22	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	620
E17Y	12" - 18"	6.2 J	67 J	45 J	5.1 U	5.1 U	7.8	5.1 U	3.5 J	10 U	5.1 U	12	10 U	10 U	30	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	590
E18X	0" - 6"	14	55	41	5.1 U	5.1 U	5.1 U	5.1 U	4.9 J	10 U	5.1 U	17	5.5 J	10 U	34	10 U	5.1 U	5.1 U	5.1 U	5.1 U	14 J	660
E18Y	12" - 18"	4.6 J	59 J	37 J	5.2 U	5.2 U	5.2 U	5.2 U	3.4 J	10 J	5.2 U	14	10 J	10 U	34	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	730
F1X	0" - 6"	12	70	110	5.1 U	5.1 U	23	5.1 U	3.9 J	5.5 J	5.1 U	11	10 U	10 U	32	10 U	5.1 U	8.7	5.1 U	5.1 U	51 U	800
F1Y	12" - 18"	21 U	71	96	10 U	10 U	24	10 U	10 U	21 U	10 U	12 J	21 U	21 U	28	21 U	10 U	9.0 J	10 U	10 U	100 U	730
F2X	0" - 6"	10 U	46	66	5.1 U	5.1 U	19	5.1 U	3.6 J	4.2 J	5.1 U	7.2 J	10 U	10 U	17	10 U	5.1 U	7.2	5.1 U	5.1 U	51 U	460
F2Y	12" - 18"	10 U	47	71	5.1 U	5.1 U	22	5.1 U	2.7 J	4.5 J	5.1 U	7.3 J	10 U	10 U	18	10 U	5.1 U	8.4	5.1 U	5.1 U	51 U	460
F3X	0" - 6"	10 U	44	61	5.1 U	5.1 U	19	5.1 U	3.9 J	10 U	5.1 U	6.8 J	9.3 J	10 U	15	10 U	5.1 U	7.3	5.1 U	5.1 U	51 U	430
F4X	0" - 6"	10 U	42	72	5.1 U	5.1 U	19	5.1 U	3.9 J	10 U	5.1 U	5.1 J	10 U	10 U	13	10 U	5.1 U	26	5.1 U	5.1 U	51 U	350
F5X	0" - 6"	10 U	37	55	5.1 U	5.1 U	17	5.1 U	6.7	3.9 J	5.1 U	4.9 J	10 U	10 U	9.9 J	10 U	5.1 U	6.4	5.1 U	5.1 U	51 U	310
F6X	0" - 6"	10 U	29	46	5.1 U	5.1 U	14	5.1 U	3.4 J	10 U	5.1 U	3.7 J	10 U	10 U	7.7 J	10 U	5.1 U	5.2	5.1 U	5.1 U	51 U	290
F7X	0" - 6"	10 U	37	43	5.1 U	5.1 U	5.1 U	5.1 U	3.6 J	3.1 J	5.1 U	3.6 J	10 U	10 U	10 U	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	290
F8X	0" - 6"	10 U	65 J	70 J	5.1 U	5.1 U	19 J	5.1 U	2.9 J	5.0 J	5.1 UJ	6.1 J	10 U	10 U	11	10 U	5.1 U	6.7 J	5.1 U	5.1 U	51 U	400
F9X	0" - 6"	16 U	160 J	160 J	8.1 U	8.1 U	42 J	8.1 U	6.5 J	16 U	8.1 UJ	7.1 J	16 U	16 U	16 U	16 U	8.1 U	12 J	8.1 U	8.1 U	81 U	810
F9Y	12" - 18"	20 U	190	160	10 U	10 U	51	10 U	4.2 J	20 U	10 U	9.2 J	20 U	20 U	20 J	20 U	10 U	14	10 U	10 U	100 U	670
F10X	0" - 6"	16 U	170 J	170 J	8.2 U	8.2 U	45 J	8.2 U	3.5 J	16 U	8.2 UJ	16 U	16 U	16 U	16 J	16 U	8.2 U	12 J	8.2 U	8.2 U	82 U	560
F10Y	12" - 18"	21 U	210	190	10 U	10 U	59	10 U	5.5 J	21 U	10 U	7.9 J	21 U	21 U	19 J	21 U	10 U	16	10 U	10 U	100 U	660
F11X	0" - 6"	20 U	160	160 J	10 U	10 U	41	10 U	10 U	20 U	10 U	20 U	20 U	20 U	15 J	20 U	10 U	11	10 U	10 U	100 U	500
F11Y	12" - 18"	20 U	180 J	150 J	10 U	10 U	45	10 U	4.1 J	20 U	10 U	20 U	20 U	20 U	15 J	20 U	10 U	12	10 U	10 U	100 U	530
F12X	0" - 6"	10 U	100	100 J	5.0 U	5.0 U	27	5.0 U	2.9 J	10 U	5.0 U	4.7 J	10 U	10 U	10 U	10 U	5.0 U	7.7	5.0 U	5.0 U	50 U	350
F17X	0" - 6"	10 U	50	44	5.1 U	5.1 U	6.6	5.1 U	3.6 J	10 U	5.1 U	12	10 U	10 U	25	10 U	5.1 U	2.3 J	5.1 U	5.1 U	51 U	490
F17Y	12" - 18"	10 U	59 J	42 J	5.1 U	5.1 U	7.9	5.1 U	5.1 U	10 U	5.1 U	11	10 U	10 U	30	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	590
F18X	0" - 6"	10 J	54	48	5.1 U	5.1 U	5.1 U	5.1 U	3.5 J	10 U	5.1 U	16	14	10 U	34	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	670
F18Y	12" - 18"	12	58 J	39 J	5.2 U	5.2 U	5.2 U	5.2 U	3.1 J	9.9 J	5.2 U	20	13	10 U	35	10 U	5.2 U	5.2 U	5.2 U	3.9 J	52 U	750
G1X	0" - 6"	13	85	110	5.1 U	5.1 U	17	5.1 U	3.1 J	6.6 J	5.1 U	14	10 U	10 U	39	10 U	5.1 U	7.1	5.1 U	5.1 U	51 U	910
G1Y	12" - 18"	8.0 J	72	110	5.2 U	5.2 U	17	5.2 U	2.9 J	8.6 J	5.2 U	14	10 U	10 U	35	10 U	5.2 U	7.3	5.2 U	5.2 U	14 J	820
G2X	0" - 6"	10 U	43	58	5.1 U	5.1 U	16	5.1 U	3.5 J	4.6 J	5.1 U	8.3 J	10 U	10 U	19	10 U	5.1 U	5.9	5.1 U	5.1 U	51 U	470
G2Y	12" - 18"	10 U	46	64	5.2 U	5.2 U	18	5.2 U	3.9 J	4.6 J	5.2 U	8.3 J	10 U	10 U	21	10 U	5.2 U	6.6	5.2 U	5.2 U	52 U	480
G3X	0" - 6"	6.6 J	36	45	5.1 U	5.1 U	18	5.1 U	4.7 J	4.2 J	5.1 U	6.5 J	9.7 J	10 U	15	10 U	5.1 U	6.5	5.1 U	5.1 U	51 U	390
G4X	0" - 6"	10 U	27	33	5.1 U	5.1 U	17	5.1 U	3.5 J	10 U	5.1 U	4.4 J	10 U	10 U	9.8 J	10 U	5.1 U	6.6	5.1 U	5.1 U	51 U	280
G5X	0" - 6"	10 U	29	35	5.1 U	5.1 U	14	5.1 U	7.2	3.9 J	5.1 U	4.9 J	10 U	10 U	13	10 U	5.1 U	5.8	5.1 U	5.1 U	51 U	280
G6X	0" - 6"	10 U	26	45	5.1 U	5.1 U	14	5.1 U	3.1 J	10 U	5.1 U	3.8 J	10 U	10 U	8.0 J	10 U	5.1 U	5.1	5.1 U	5.1 U	51 U	250
G7X	0" - 6"	4.1 J	34	49	5.1 U	5.1 U	14	5.1 U	5.1	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	5.5	5.1 U	5.1 U	51 U	260
G8X	0" - 6"	10 U	47 J	59 J	5.1 U	5.1 U	15 J	5.1 U	5.2	4.3 J	5.1 UJ	10 U	10 U	10 U	9.3 J	10 U	5.1 U	5.4 J	5.1 U	5.1 U	51 U	330
G9X	0" - 6"	16 U	130 J	120 J	7.7 J	8.1 U	41 J	8.1 U	5.8 J	16 U	8.1 UJ	16 U	16 U	16 U	15 J	16 U	8.1 U	12 J	8.1 U	8.1 U	81 U	500
G9Y	12" - 18"	21 U	160	190	10 U	10 U	54	10 U	5.8 J	21 U	10 U	21 U	21 U	21 U	18 J	21 U	10 U	15	10 U	10 U	100 U	570

Table 2
Organochlorine Pesticides in Pre-Excavation Samples
Proposed Phase VI Housing Project, Stuart Mesa East Agricultural Fields
MCB Camp Pendleton, California

Sample ID[a)]	Depth	Organochlorine Pesticides (EPA Method 8081A)																				
		4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-Chlordane	Beta-BHC	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Gamma-BHC (Lindane)	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Project Action Limit[b)]:		2400	1700	1700	29	90	1600[c)]	320	NE	24	370000	370000	NE	18000	NE	NE	440	1600[c)]	110	53	310000	440
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
G10X	0" - 6"	20 J	120 J	100 J	8.1 U	8.1 U	36 J	8.1 U	8.1 U	16 U	8.1 UJ	16 U	16 U	16 U	16 U	16 U	8.1 U	9.6 J	8.1 U	8.1 U	81 U	370
G17X	0" - 6"	10 U	44	78	5.1 U	5.1 U	5.1 U	5.1 U	2.9 J	10 U	5.1 U	12	10	10 U	24	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	560
G17Y	12" - 18"	10 U	60 J	42 J	5.2 U	5.2 U	9.8	5.2 U	5.2 U	10 U	5.2 U	12	10 U	10 U	31	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	630
G18X	0" - 6"	9.2 J	43	33	5.1 U	5.1 U	5.1 U	5.1 U	3.2 J	10 U	5.1 U	14	10 U	10 U	31	10 U	5.1 U	5.1 U	5.1 U	5.1 U	14 J	580
G18Y	12" - 18"	11	50 J	44 J	5.2 U	5.2 U	5.2 U	5.2 U	2.3 J	8.0 J	5.2 U	16	10 U	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	670
H1X	0" - 6"	13	72	110	5.1 U	5.1 U	19	5.1 U	3.7 J	9.3 J	5.1 U	16	10 U	10 U	39	10 U	5.1 U	8.2	5.1 U	5.1 U	51 U	940
H1Y	12" - 18"	21 U	61	100	10 U	10 U	19	10 U	10 U	8.4 J	10 U	13 J	21 U	21 U	30	21 U	10 U	7.6 J	10 U	10 U	100 U	750
H2X	0" - 6"	10 U	41	67	5.1 U	5.1 U	23	5.1 U	3.6 J	5.0 J	5.1 U	8.1 J	10 U	10 U	20	10 U	5.1 U	8.0	5.1 U	5.1 U	51 U	530
H2Y	12" - 18"	10 U	43	70	5.2 U	5.2 U	23	5.2 U	4.1 J	10 U	5.2 U	7.2 J	10 U	10 U	20	10 U	5.2 U	9.1	5.2 U	5.2 U	52 U	520
H3X	0" - 6"	8.9 J	31	40	5.1 U	5.1 U	18	5.1 U	7.6	4.4 J	5.1 U	5.1 J	9.2 J	10 U	14	10 U	5.1 U	6.5	5.1 U	5.1 U	51 U	380
H4X	0" - 6"	10 U	25	33	5.1 U	5.1 U	19	5.1 U	4.9 J	10 U	5.1 U	4.7 J	10 U	10 U	11	10 U	5.1 U	7.6	5.1 U	5.1 U	51 U	290
H5X	0" - 6"	10 U	20	28	5.1 U	5.1 U	18	5.1 U	5.1 U	10 U	5.1 U	3.8 J	10 U	10 U	9.4 J	10 U	5.1 U	5.9	5.1 U	5.1 U	51 U	230
H6X	0" - 6"	10 U	17	24	5.1 U	5.1 U	17	5.1 U	3.2 J	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	6.0	5.1 U	5.1 U	51 U	250
H7X	0" - 6"	10 U	24	30	5.1 U	5.1 U	16	5.1 U	4.0 J	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	6.1	5.1 U	5.1 U	51 U	270
H8X	0" - 6"	10 U	49 J	55 J	5.1 U	5.1 U	18 J	5.1 U	5.4	3.7 J	5.1 UJ	4.5 J	10 U	10 U	9.9 J	10 U	5.1 U	6.6 J	5.1 U	5.1 U	51 U	380
H9X	0" - 6"	16 R	120 J	100 J	8.2 U	8.2 U	41 J	8.2 U	8.2 U	16 U	8.2 UJ	16 U	16 U	16 U	16 U	16 U	8.2 U	11 J	8.2 U	8.2 U	82 U	530
H9Y	12" - 18"	21 U	150	110	10 U	10 U	52	10 U	5.6 J	21 U	10 U	21 U	21 U	21 U	18 J	21 U	10 U	14	10 U	10 U	100 U	600
H10X	0" - 6"	16 U	120 J	100 J	8.1 U	8.1 U	43 J	8.1 U	8.1 U	16 U	8.1 UJ	16 U	16 U	16 U	12 J	16 U	8.1 U	12 J	8.1 U	8.1 U	81 U	440
H10Y	12" - 18"	20	130	110	5.1 U	5.1 U	47	5.1 U	4.0 J	10 U	5.1 U	5.9 J	10 U	10 U	14	10 U	5.1 U	13	5.1 U	5.1 U	51 U	490
H17X	0" - 6"	10 U	32	29	5.1 U	5.1 U	5.1 U	5.1 U	3.4 J	4.2 J	5.1 U	8.3 J	10 U	10 U	17	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	330
H18X	0" - 6"	10 U	33	23	5.1 U	5.1 U	5.1 U	5.1 U	2.9 J	4.4 J	5.1 U	9.1 J	10 U	10 U	20	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	410
I1X	0" - 6"	8.5 J	66	94	5.1 U	5.1 U	15	5.1 U	3.7 J	7.0 J	5.1 U	11	10 U	10 U	29	10 U	5.1 U	6.7	5.1 U	5.1 U	51 U	720
I1Y	12" - 18"	10 U	46	74	5.2 U	5.2 U	12	5.2 U	2.5 J	3.9 J	5.2 U	9.8 J	10 U	10 U	22	10 U	5.2 U	5.1 J	5.2 U	5.2 U	52 U	510
I2X	0" - 6"	10 U	36	62	5.1 U	5.1 U	17	5.1 U	3.9 J	4.5 J	5.1 U	7.1 J	10 U	10 U	17	10 U	5.1 U	6.6	5.1 U	5.1 U	51 U	440
I2Y	12" - 18"	10 U	36	63	5.2 U	5.2 U	17	5.2 U	3.5 J	10 U	5.2 U	7.1 J	10 U	10 U	16	10 U	5.2 U	6.5	5.2 U	5.2 U	52 U	420
I3X	0" - 6"	6.8 J	29	34	5.1 U	5.1 U	15	5.1 U	6.5	3.3 J	5.1 U	5.6 J	10 U	10 U	10 U	10 U	5.1 U	5.2	5.1 U	5.1 U	51 U	310
I4X	0" - 6"	10 U	24	31	5.1 U	5.1 U	17	5.1 U	3.3 J	10 U	5.1 U	4.4 J	10 U	10 U	11	10 U	5.1 U	6.3	5.1 U	5.1 U	51 U	290
I5X	0" - 6"	10 U	21	31	5.1 U	5.1 U	19	5.1 U	3.9 J	10 U	5.1 U	4.0 J	10 U	10 U	8.7 J	10 U	5.1 U	6.8	5.1 U	5.1 U	51 U	270
I6X	0" - 6"	10 U	18	26	5.1 U	5.1 U	17	5.1 U	3.8 J	10 U	5.1 U	10 U	10 U	10 U	6.4 J	10 U	5.1 U	5.7	5.1 U	5.1 U	51 U	280
I7X	0" - 6"	10 U	17	26	5.1 U	5.1 U	16	5.1 U	3.4 J	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	5.8	5.1 U	5.1 U	51 U	210
I8X	0" - 6"	9.7 J	42 J	43 J	5.1 U	5.1 U	17 J	5.1 U	3.7 J	10 U	5.1 UJ	10 U	10 U	10 U	8.7 J	10 U	5.1 U	5.6 J	5.1 U	5.1 U	51 U	340
J1X	0" - 6"	5.2 J	39	43	5.1 U	5.1 U	5.1 U	5.1 U	4.1 J	10 U	5.1 U	7.8 J	10 U	10 U	18	10 U	5.1 U	2.9 J	5.1 U	5.1 U	51 U	410
J2X	0" - 6"	10 U	26	37	5.1 U	5.1 U	8.2	5.1 U	3.8 J	4.0 J	5.1 U	5.4 J	10 U	10 U	11	10 U	5.1 U	3.3 J	5.1 U	5.1 U	51 U	280
J3X	0" - 6"	4.6 J	27	39	5.1 U	5.1 U	11	5.1 U	4.3 J	4.1 J	5.1 U	7.6 J	10 U	10 U	12	10 U	5.1 U	4.3 J	5.1 U	5.1 U	51 U	320
J4X	0" - 6"	10 U	20	27	5.2 U	5.2 U	11	5.2 U	2.8 J	10 U	5.2 U	4.7 J	10 U	10 U	10 U	10 U	5.2 U	4.3 J	5.2 U	5.2 U	52 U	290
J5X	0" - 6"	10 U	19	29	5.1 U	5.1 U	13	5.1 U	4.5 J	10 U	5.1 U	3.9 J	10 U	10 U	8.6 J	10 U	5.1 U	4.8 J	5.1 U	5.1 U	51 U	240
J6X	0" - 6"	6.0 J	15	22	5.1 U	5.1 U	12	5.1 U	3.3 J	10 U	5.1 U	10 U	10 U	10 U	6.7 J	10 U	5.1 U	4.2 J	5.1 U	5.1 U	51 U	200
J7X	0" - 6"	10 U	16	23	5.1 U	5.1 U	14	5.1 U	4.0 J	10 U	5.1 U	10 U	10 U	10 U	6.6 J	10 U	5.1 U	4.6 J	5.1 U	5.1 U	51 U	200
J8X	0" - 6"	8.1 J	33 J	38 J	5.1 U	5.1 U	14 J	5.1 U	3.6 J	10 U	5.1 UJ	10 U	10 U	10 U	7.4 J	10 U	5.1 U	4.4 J	5.1 U	5.1 U	51 U	270

Notes:

a) Each sample consists of five discrete samples collected from each 1/4-acre grid and composited in the laboratory.

b) Federal Residential Preliminary Remediation Goal for Soil (EPA Region 9) except for dieldrin for which the project action limit is the remedial goal for residents and military residents using the US EPA modified toxicity values (refer to HHRA, Parsons, 2009).

c) Soil PRG for Chlordane.

Highlighted values exceed the project action limits.

Acronyms/Abbreviations:

NE = not established

µg/kg = micrograms per kilogram

J = estimated value

U = not detected at or above the stated limit

UJ = not detected, the detection limit is an estimated value

Table 3
Organochlorine Pesticide in Post-Excavation Confirmation Samples
Proposed Phase VI Housing Project, Stuart Mesa East Agricultural Fields
MCB Camp Pendleton, California

Sample ID[a)]	Date	Depth	Organochlorine Pesticides (EPA Method 8081A)																				
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-Chlordane	Beta-BHC	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Gamma-BHC (Lindane)	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Project Action Limit[b)]:			2400	1700	1700	29	90	1600[c)]	320	NE	24	370000	370000	NE	18000	NE	NE	440	1600[c)]	110	53	310000	440
		Units:	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
A1-CON	6/25/09	2'	10 U	8.3 J	11	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	10 U	5.2 U	10 U	10 U	10 UJ	10 U	10 U	5.2 UJ	5.2 U	5.2 U	5.2 UJ	52 UJ	77 J
A3-CON	6/25/09	2'	10 U	4.3 J	7.0 J	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	10 U	5.2 U	10 U	10 U	10 UJ	10 U	10 U	5.2 UJ	5.2 U	5.2 U	5.2 UJ	52 UJ	43 J
A10-CON	6/25/09	1'	20	120	350	5.1 U	5.1 U	12	4.4 J	5.1 UJ	27	5.1 U	20	6.1 J	10 U	31	10 U	5.1 UJ	5.1 U	5.1 U	5.1 UJ	18 J	1400
A10-2	7/6/09	2'	10 UJ	87	83 J	5.1 U	5.1 U	3.4 J	4.9 J	2.9 J	48	5.1 U	5.7 J	10 U	10 UJ	10 U	10 UJ	5.1 UJ	5.1 U	5.1 U	5.1 UJ	51 U	430
A10-CON	7/14/09	2' 8"	10 U	19	88	5.1 U	5.1 U	34	3.2 J	4.1 J	19	5.1 U	8 J	10 U	10 U	10 U	10 U	5.1 U	16	5.1 U	5.1 U	51 U	430
A11-CON	6/25/09	2'	10 U	22	18	5.1 U	5.1 U	5.1 U	5.1 U	5.1 UJ	7.7 J	5.1 U	10 U	10 U	10 UJ	10 U	10 U	5.1 UJ	5.1 U	5.1 U	5.1 UJ	51 UJ	77 J
A12-CON	7/1/09	2'	31	60	390	21 U	21 U	21 U	7.2	21 U	96	21 U	18	41 U	41 U	41 U	41 U	21 U	21 U	21 U	21 U	210 U	1100
A12-CON	7/14/09	3'	7.6 J	68	140 J	5.2 U	5.2 U	5.2 U	7.4	6.3	72	5.2 U	12	10 U	10 U	17	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	760
A12-CON	7/23/09	3' 6"	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	130 U
A13-CON	7/1/09	2'	29	130	580	41 U	41 U	41 U	41 U	41 U	120 J	41 U	37	82 U	82 U	71	82 U	41 U	41 U	41 U	41 U	410 U	2700
A13-CON	7/14/09	3'	10 U	10 U	10 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	24	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	130 U
A14-CON	6/30/09	1'	10 UJ	69	33	5.1 U	5.1 U	17	5.1 U	15	25	5.1 U	10 U	10 U	10 U	4.7 J	10 U	5.1 U	6.4	5.1 U	5.1 U	51 U	210
A14-CON	7/14/09	1' 4"	10 U	11	4.4 J	5.1 U	5.1 U	5.1 U	5.1 U	2.4 J	6 J	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	130 U
A15-CON	6/30/09	2'	10 UJ	73	75	5.2 U	5.2 U	14	3.7 J	12	23	5.2 U	6.0 J	10 U	10 U	9.4 J	10 U	5.2 U	4.8 J	5.2 U	5.2 U	52 U	420
A16-CON	6/30/09	1'	16 J	410	250	20 U	20 U	39 J	13 J	23	66	20 U	28 J	41 U	28 J	52	41 U	20 U	14 J	20 U	20 U	200 J	2000
A16-CON	7/14/09	2'	24 J	310	700 J	21 U	21 U	21 U	27	7.9 J	190	21 U	37 J	22 J	42 UJ	64	42 U	21 U	21 U	21 U	21 U	210 UJ	2500
A16-CON	7/23/09	2' 6"	10 U	3.9 J	10 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	130 U
B1-CON	6/15/09	2'	10 UJ	29 J	22	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	2.0 J	5.2 U	5.2 U	52 U	270
B10-CON	6/24/09	2'	10 U	77	130	5.2 U	5.2 U	28	5.2 U	9.7	18	5.2 U	12	23	10 U	22	10 U	5.2 U	9.0	5.2 U	5.2 U	52 UJ	540
B10-2	7/6/09	2' 8"	10 UJ	43	27 J	5.2 U	5.2 U	16	5.2 U	5.2 U	8.1 J	5.2 U	10 U	10 U	10 UJ	10 U	10 UJ	5.2 UJ	4.8 J	5.2 U	5.2 UJ	52 U	160
B11-CON	6/24/09	2'	10 UJ	65	97	5.2 U	5.2 U	11	5.5	3.1 J	55	5.2 U	6.6 J	10 U	10 U	11	10 U	5.2 U	4.3 J	5.2 U	5.2 U	52 UJ	420
B11-2	7/6/09	2' 8"	10 UJ	99	79 J	5.1 U	5.1 U	27	3.5 J	6.7	38	5.1 U	8.1 J	10 U	10 UJ	10 U	10 UJ	5.1 UJ	9.5	5.1 U	1.8 J	51 U	500
B11-CON	7/14/09	3' 4"	11 U	5.6 J	6.2 J	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	7.9 J	5.3 U	11 U	11 U	11 U	11 U	11 U	5.3 U	5.3 U	5.3 U	5.3 U	53 U	90 J
B12-CON	7/1/09	2'	10 U	15	13	5.2 U	5.2 U	7.2	5.2 U	2.6 J	8.1 J	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	2.4 J	5.2 U	5.2 U	52 U	120 J
C1-CON	6/15/09	2'	10 UJ	16	18	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	150
D1-CON	6/15/09	2'	10 UJ	5.2 J	5.6 J	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	50 J
D9-CON	6/22/09	2'	10 U	44	37	5.2 U	5.2 U	16	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	4.6 J	5.2 U	5.2 U	52 U	180
D10-CON	6/22/09	2'	10 U	69	58	5.2 U	5.2 U	21	5.2 U	3.6 J	5.5 J	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	5.4	5.2 U	5.2 U	52 U	220
D11-CON	6/22/09	2'	10 UJ	87	76	5.2 U	5.2 U	24	5.2 U	4.8 J	9.4 J	5.2 U	5.6 J	10 U	10 U	11	10 U	5.2 U	6.5	5.2 U	5.2 U	52 U	330
D12-CON	6/24/09	2'	10 U	85	81	5.2 U	5.2 U	26	5.2 U	3.6 J	8.3 J	5.2 U	4.5 J	10 U	10 U	10 J	10 U	5.2 U	7.5	5.2 U	5.2 U	52 UJ	360
E1-CON	6/15/09	2'	10 UJ	13	22	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	5.1 U	5.1 U	5.1 U	51 U	140
E9-CON	6/22/09	2'	21 UJ	160	160	10 U	10 U	43	10 U	10 U	21 U	10 U	21 U	21 U	21 U	21 U	21 U	10 U	12	10 U	10 U	100 U	570
E9-CON-2	6/30/09	2' 8"	10 UJ	68	50	5.1 U	5.1 U	24	5.1 U	5.1 U	10 U	5.1 U	10 U	10 U	10 U	8.0 J	10 U	5.1 U	7.6	5.1 U	5.1 U	51 U	290
E10-CON	6/22/09	2'	10 UJ	28	24	5.2 U	5.2 U	8.8	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	2.6 J	5.2 U	5.2 U	52 U	97 J
E11-CON	6/22/09	2'	3.3 J	98	93	5.2 U	5.2 U	28	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	7.7	5.2 U	5.2 U	52 U	280
E12-CON	6/22/09	2'	10 UJ	32	30	5.2 U	5.2 U	9.7	5.2 U	5.2 U	4.6 J	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	3.0 J	5.2 U	5.2 U	52 U	120 J
F1-CON	6/15/09	2'	10 UJ	28	43	5.1 U	5.1 U	11	5.1 U	5.1 U	10 U	5.1 U	4.8 J	10 U	10 U	11	10 U	5.1 U	3.8 J	5.1 U	5.1 U	51 U	280
F2-CON	6/15/09	2'	10 UJ	10 J	15	5.2 U	5.2 U	8.5	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	2.1 J	5.2 U	5.2 U	52 U	120 J
F9-CON	6/22/09	2'	10 U	130	130	5.2 U	5.2 U	40	5.2 U	3.6 J	10 U	5.2 U	7.6 J	10 U	10 U	16	10 U	5.2 U	12	5.2 U	5.2 U	52 U	500
F9-CON-2	6/30/09	2' 8"	10 UJ	39	31	5.2 U	5.2 U	12	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	3.8 J	5.2 U	5.2 U	52 U	150
F10-CON	6/22/09	2'	10 UJ	50	56	5.2 U	5.2 U	16	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	4.5 J	5.2 U	5.2 U	52 U	150
F11-CON	6/22/09	2'	10 UJ	25	18	5.2 U	5.2 U	9.4	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	2.8 J	5.2 U	5.2 U	52 U	87 J
G1-CON	6/15/09	2'	8.2 UJ	15	25	4.1 U	4.1 U	6.8	4.1 U	4.1 U	8.2 U	4.1 U	3.4 J	8.2 U	8.2 UJ	7.0 J	8.2 U	4.1 U	2.2 J	4.1 U	4.1 UJ	41 UJ	180
G2-CON	6/15/09	2'	10 UJ	14	21	5.2 U	5.2 U	9.5	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	3.2 J	5.2 U	5.2 U	52 U	160
G9-CON	6/22/09	2'	10 U	44	42	5.1 U	5.1 U	29	5.1 U	5.1 U	10 U	5.1 U	10 U	10 U	10 U	10 U	10 U	5.1 U	9.7	5.1 U	5.1 U	51 U	230

Table 3
Organochlorine Pesticide in Post-Excavation Confirmation Samples
Proposed Phase VI Housing Project, Stuart Mesa East Agricultural Fields
MCB Camp Pendleton, California

Sample ID[a)]	Date	Depth	Organochlorine Pesticides (EPA Method 8081A)																				
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-Chlordane	Beta-BHC	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Gamma-BHC (Lindane)	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Project Action Limit[b)]:			2400	1700	1700	29	90	1600[c)]	320	NE	24	370000	370000	NE	18000	NE	NE	440	1600[c)]	110	53	310000	440
Units:			µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
H-1-CON	6/12/09	2'	2.5 J	15	23	2.1 U	2.1 U	3.9	2.1 U	1.1 J	2.0 J	2.1 U	3.1 J	4.1 U	4.1 U	7.0	4.1 U	2.1 U	1.1 J	2.1 U	2.1 UJ	21 U	160
H-2-CON	6/12/09	2'	4.1 U	12	22	2.1 U	2.1 U	9.9	2.1 U	2.1 U	1.8 J	2.1 U	2.8 J	4.1 U	4.1 U	5.4	4.1 U	2.1 U	3.5	2.1 U	2.1 UJ	21 U	160
H9-CON	6/22/09	2'	10 U	44	40	5.2 U	5.2 U	29 J	5.2 U	5.2 U	10 U	5.2 U	10 U	10 U	10 U	10 U	10 U	5.2 U	9.7	5.2 U	5.2 U	52 U	240
I-1-CON	6/12/09	2'	3.0 J	25	43	2.1 U	2.1 U	6.6	2.1 U	1.9 J	3.7 J	2.1 U	4.9	4.1 U	4.1 U	12	4.1 U	2.1 U	2.5	2.1 U	2.1 UJ	21 U	290

Notes:

a) Each sample consists of five discrete samples collected from each 1/4-acre grid and composited in the laboratory.

b) Federal Residential Preliminary Remediation Goal for Soil (EPA Region 9) except for dieldrin for which the project action limit is the remedial goal for residents and military residents using the US EPA modified toxicity values (refer to HHRA, Parsons, 2009).

c) Soil PRG for Chlordane.

Highlighted values exceed the project action limits.

Blue indicates confirmation samples collected after the first over excavation of the grid.

Green indicates confirmation samples collected after the second over excavation of the grid.

Acronyms/Abbreviations:

NE = not established

µg/kg = micrograms per kilogram

J = estimated value

U = not detected at or above the stated limit

UJ = not detected, the detection limit is an estimated value

APPENDIX A

WASTE DISPOSAL MANIFESTS
(Provided on Enclosed Compact Disk)

APPENDIX B

LABORATORY (DATA VALIDATION) REPORTS
PRE-EXCAVATION SAMPLING

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-May-2009	A18X	E012-01I	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E012										
8081A	A18X	SO	N							
				DIELDRIN	21	20J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E012

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E012

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E012 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A18X	E012-01I	8081A	SO	DIELDRIN	J	20	21	UG/KG

LDC #: 20914A3a

SDG #: 09E012

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 6/10/09

Page: 1 of 1

Reviewer: ag

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/1/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	~~N~~ A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A18X	11	MBLK1S	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LABORATORY DATA CONSULTANTS, INC.
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July 10, 2009

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LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

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The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-May-2009	A18YMS	E012-02M	MS	3550B	8081A	3
01-May-2009	A18YMSD	E012-02S	MSD	3550B	8081A	3
01-May-2009	A18Y	E012-02T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E012A										
8081A	A18Y	SO	N							
				4,4'-DDD	11	7.7J		J	UG/KG	
				DIELDRIN	11	10J		J	UG/KG	
				ENDOSULFAN SULFATE	11	6.4J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E012A

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E012A

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E012A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A18Y	E012-02T	8081A	SO	4,4'-DDD	J	7.7	11	UG/KG
				DIELDRIN	J	10	11	UG/KG
				ENDOSULFAN SULFATE	J	6.4	11	UG/KG

LDC #: 20914B3a

SDG #: 09E012A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 6/10/09

Page: 1 of 1

Reviewer: an

2nd Reviewer: D

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/1/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	~~N~~ A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A18Y	11	MBLK1S	21		31	
2	A18YMS	12		22		32	
3	A18YMSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

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09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

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- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-May-2009	B18X	E034-01T	N	3550B	8081A	3
04-May-2009	C18XMS	E034-03M	MS	3550B	8081A	3
04-May-2009	C18XMSD	E034-03S	MSD	3550B	8081A	3
04-May-2009	C18X	E034-03T	N	3550B	8081A	3
04-May-2009	D18X	E034-05T	N	3550B	8081A	4
04-May-2009	E18XMS	E034-07M	MS	3550B	8081A	3
04-May-2009	E18XMSD	E034-07S	MSD	3550B	8081A	3
04-May-2009	E18X	E034-07T	N	3550B	8081A	3
04-May-2009	F18X	E034-09T	N	3550B	8081A	3
04-May-2009	G18X	E034-11T	N	3550B	8081A	3
04-May-2009	H18X	E034-13T	N	3550B	8081A	4
04-May-2009	H17X	E034-15T	N	3550B	8081A	3
04-May-2009	G17X	E034-17T	N	3550B	8081A	3
04-May-2009	F17X	E034-19T	N	3550B	8081A	3
04-May-2009	E17X	E034-21T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E034										
8081A	B18X	SO	N							
				DELTA-BHC	5.1	5.0J		J	UG/KG	
8081A	C18X	SO	N							
				4,4'-DDD	10	9.2J		J	UG/KG	
				DELTA-BHC	5.1	2.9J		J	UG/KG	
				ENDOSULFAN SULFATE	10	5.0J		J	UG/KG	
8081A	D18X	SO	N							
				4,4'-DDD	10	8.9J		J	UG/KG	
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				ENDRIN ALDEHYDE	10	29		J	UG/KG	
8081A	E17X	SO	N							
				BETA-BHC	5.1	3.4J		J	UG/KG	
				DELTA-BHC	5.1	3.1J		J	UG/KG	
				ENDOSULFAN SULFATE	10	9.6J		J	UG/KG	
8081A	E18X	SO	N							
				DELTA-BHC	5.1	4.9J		J	UG/KG	
				ENDOSULFAN SULFATE	10	5.5J		J	UG/KG	
				METHOXYCHLOR	51	14J		J	UG/KG	
8081A	F17X	SO	N							
				DELTA-BHC	5.1	3.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.3J		J	UG/KG	
8081A	F18X	SO	N							
				DELTA-BHC	5.1	3.5J		J	UG/KG	
8081A	G17X	SO	N							
				DELTA-BHC	5.1	2.9J		J	UG/KG	
8081A	G18X	SO	N							
				4,4'-DDD	10	9.2J		J	UG/KG	
				DELTA-BHC	5.1	3.2J		J	UG/KG	
				METHOXYCHLOR	51	14J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E034										
8081A	H17X	SO	N							
				DELTA-BHC	5.1	3.4J		J	UG/KG	
				DIELDRIN	10	4.2J		J	UG/KG	
				ENDOSULFAN II	10	8.3J		J	UG/KG	
8081A	H18X	SO	N							
				DELTA-BHC	5.1	2.9J		J	UG/KG	
				DIELDRIN	10	4.4J		J	UG/KG	
				ENDOSULFAN II	10	9.1J		J	UG/KG	
				ENDRIN ALDEHYDE	10	20		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E034

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E034

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E034 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
B18X	E034-01T	8081A	SO	DELTA-BHC	J	5.0	5.1	UG/KG
C18X	E034-03T			4,4'-DDD	J	9.2	10	UG/KG
				DELTA-BHC	J	2.9	5.1	UG/KG
				ENDOSULFAN SULFATE	J	5.0	10	UG/KG
D18X	E034-05T			4,4'-DDD	J	8.9	10	UG/KG
				DELTA-BHC	J	3.9	5.1	UG/KG
E17X	E034-21T			BETA-BHC	J	3.4	5.1	UG/KG
				DELTA-BHC	J	3.1	5.1	UG/KG
				ENDOSULFAN SULFATE	J	9.6	10	UG/KG
E18X	E034-07T			DELTA-BHC	J	4.9	5.1	UG/KG
				ENDOSULFAN SULFATE	J	5.5	10	UG/KG
				METHOXYCHLOR	J	14	51	UG/KG
F17X	E034-19T			DELTA-BHC	J	3.6	5.1	UG/KG
				GAMMA-CHLORDANE	J	2.3	5.1	UG/KG
F18X	E034-09T			DELTA-BHC	J	3.5	5.1	UG/KG
G17X	E034-17T			DELTA-BHC	J	2.9	5.1	UG/KG
G18X	E034-11T			4,4'-DDD	J	9.2	10	UG/KG
				DELTA-BHC	J	3.2	5.1	UG/KG
				METHOXYCHLOR	J	14	51	UG/KG
H17X	E034-15T			DELTA-BHC	J	3.4	5.1	UG/KG
				DIELDRIN	J	4.2	10	UG/KG
				ENDOSULFAN II	J	8.3	10	UG/KG
H18X	E034-13T			DELTA-BHC	J	2.9	5.1	UG/KG
				DIELDRIN	J	4.4	10	UG/KG
				ENDOSULFAN II	J	9.1	10	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E034 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
D18X	8081A	4,4'-DDD	72-54-8	J		Professional Judgement
D18X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
H18X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement

LDC #: 20914C3a

VALIDATION COMPLETENESS WORKSHEET

SDG #: 09E034

(ADR) IV

Laboratory: EMAX Laboratories, Inc.

Date: 6/10/09

Page: 1 of 1

Reviewer: an

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/4/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	N	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOILS

1	B18X	11	E17X	21	MBLK15	31	
2	C18X	12	C18XMS	22		32	
3	D18X**	13	C18XMSD	23		33	
4	E18X	14	E18XMS	24		34	
5	F18X	15	E18XMSD	25		35	
6	G18X	16		26		36	
7	H18X**	17		27		37	
8	H17X	18		28		38	
9	G17X	19		29		39	
10	F17X	20		30		40	

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	MCB Camp Pendleton, Ag Fields A6 Phase BI
Collection Date:	May 4, 2009
LDC Report Date:	June 17, 2009
Matrix:	Soil
Parameters:	Chlorinated Pesticides
Validation Level:	NFESC Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	09E034

Sample Identification

D18X
H18X

Introduction

This data review covers 2 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E034	All compounds reported below the RL.	J (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
D18X	4,4'-DDD Endrin aldehyde	76 76	J (all detects) J (all detects)	A
H18X	Endrin aldehyde	69	J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E034

SDG	Sample	Compound	Flag	A or P	Reason
09E034	D18X H18X	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs
09E034	D18X	4,4'-DDD Endrin aldehyde	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E034	H18X	Endrin aldehyde	J (all detects)	A	Compound quantitation and CRQLs (RPD)

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E034

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E034

No Sample Data Qualified in this SDG

LDC #: 20914C3a

SDG #: 09E034

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 6/10/09

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/4/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	A ~~N~~	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

~~1~~	~~B18X~~	11	~~E17X~~	21	MBLK 1S	31	
~~2~~	~~C18X~~	12	C18XMS	22		32	
3	D18X**	13	C18XMSD	23		33	
~~4~~	~~E18X~~	14	E18XMS	24		34	
5	F18X	15	~~E18XMSD~~	25		35	
~~6~~	~~G18X~~	16		26		36	
7	H18X**	17		27		37	
~~8~~	~~H17X~~	18		28		38	
9	G17X	19		29		39	
~~10~~	~~F17X~~	20		30		40	

LDC #: 20914C3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recoveries ~~85-115%~~ 80-120?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?			✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	✓		✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 20914C3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914C39
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Page: 1 of ___
Reviewer: ___
2nd Reviewer: ___

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y (N) N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings bellow.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	m	3	76	Jdet /A
	R	↓	76	↓
	R	7	69	Jdet /A

Comments: See sample calculation verification worksheet for recalculations

COMQUA%DNsw.wpd

LDC #: 20914C3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: dl 7/16
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	1Cal	5/1/09	C	14147	14147	13340.2	13340.2	16.6	16.6
	RTX CLP		O	10696	10696	10273.3	10273.3	5.4	5.4
2	1 Cal	↓	C	9590	9590	~~102~~ 9172.2	9172.2	11.9	11.9
	RTX CLP II		O	6949	6949	6789.0	6789.0	7.5	7.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914C39
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer:
2nd Reviewer:

METHOD: GC 8081 HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE05049A		C	20.0	21.09	21.09	5	5
	RTX CLP		O	40.0	40.14	40.14	0	0
2	SE05049B		C	20.0	19.77	19.77	1	1
	RTX CLP II		O	40.0	40.13	40.13	0	0
3	SE05062A		C	20.0	21.85	21.85	9	9
	RTX-CLP		O	40.0	40.85	40.85	2	2
4	SE05062B		C	20.0	20.35	20.35	2	2
	RTX CLP II		O	40.0	40.87	40.87	2	2

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914C3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: dey
2nd reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 7

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX-CLP	40.0	34.2	85	86	1
Tetrachloro-m-xylene	↓	↓				
Decachlorobiphenyl			40.7	102	102	0
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 20914C3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (µg/kg)		Spiked Sample Concentration (µg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma-BHC~~ delta	~~13.3~~ 13.3	NA	15.3	NA	115	115				
4,4'-DDT	13.3	NA	15.2	↓	114	114				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914C3b
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: ch
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 7 0 :

~~Conc. = (186790 × 2.5 × 10) / (6789 × 0.8)~~

$$\text{Conc} = \frac{186790 \times 10 \times 2.5}{6789 \times 30.01 \times 0.982}$$

$$= 23.4\ \mu g/kg$$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.SS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-May-2009	B18Y	E034-02T	N	3550B	8081A	3
04-May-2009	C18YMS	E034-04M	MS	3550B	8081A	3
04-May-2009	C18YMSD	E034-04S	MSD	3550B	8081A	3
04-May-2009	C18Y	E034-04T	N	3550B	8081A	3
04-May-2009	D18Y	E034-06T	N	3550B	8081A	3
04-May-2009	E18YMS	E034-08M	MS	3550B	8081A	3
04-May-2009	E18YMSD	E034-08S	MSD	3550B	8081A	3
04-May-2009	E18Y	E034-08T	N	3550B	8081A	3
04-May-2009	F18Y	E034-10T	N	3550B	8081A	3
04-May-2009	G18YMS	E034-12M	MS	3550B	8081A	3
04-May-2009	G18YMSD	E034-12S	MSD	3550B	8081A	3
04-May-2009	G18Y	E034-12T	N	3550B	8081A	3
04-May-2009	G17Y	E034-18T	N	3550B	8081A	3
04-May-2009	F17Y	E034-20T	N	3550B	8081A	3
04-May-2009	E17Y	E034-22T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E034A										
8081A	B18Y	SO	N							
				4,4'-DDD	10	4.5J		J	UG/KG	
				DELTA-BHC	5.2	3.4J		J	UG/KG	
				ENDRIN	10	9.1J		J	UG/KG	
				HEPTACHLOR	5.2	5.2U		UJ	UG/KG	
8081A	C18Y	SO	N							
				4,4'-DDD	10	9.2J		J	UG/KG	
				4,4'-DDE	10	45		J	UG/KG	
				DELTA-BHC	5.1	4.7J		J	UG/KG	
				ENDOSULFAN SULFATE	10	9.5J		J	UG/KG	
				HEPTACHLOR	5.1	5.1U		UJ	UG/KG	
8081A	D18Y	SO	N							
				DELTA-BHC	5.1	2.9J		J	UG/KG	
				HEPTACHLOR	5.1	5.1U		UJ	UG/KG	
8081A	E17Y	SO	N							
				4,4'-DDD	10	6.2J		J	UG/KG	
				DELTA-BHC	5.1	3.5J		J	UG/KG	
8081A	E18Y	SO	N							
				4,4'-DDD	10	4.6J		J	UG/KG	
				4,4'-DDT	10	37		J	UG/KG	
				DELTA-BHC	5.2	3.4J		J	UG/KG	
				HEPTACHLOR	5.2	5.2U		UJ	UG/KG	
8081A	F18Y	SO	N							
				DELTA-BHC	5.2	3.1J		J	UG/KG	
				DIELDRIN	10	9.9J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	3.9J		J	UG/KG	
8081A	G18Y	SO	N							
				DELTA-BHC	5.2	2.3J		J	UG/KG	
				DIELDRIN	10	8.0J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09E034A

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09E034A	B18Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E034A	C18Y	8081A	72559	J		4,4'-DDE	Matrix spike recovery
09E034A	C18Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E034A	D18Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E034A	E18Y	8081A	50293	J		4,4'-DDT	Matrix spike recovery
09E034A	E18Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E034A

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : CPE023S **Analysis Method :** 8081A **Analysis Date :** 05/12/2009
Preparation Batch : CPE023S **Preparation Type :** 3550B **Preparation Date :** 05/11/2009
Lab Reporting Batch : 09E034A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported * Percent Recovery	RPD	Project Limits (Percent) Rejection Point**	Lower Limit	Upper Limit	RPD
C18YMS	E034-04M	SO	4,4'-DDE	199		0.00	50.00	150.00	50.00
C18YMSD	E034-04S		4,4'-DDE	158		0.00	50.00	150.00	50.00
E18YMS	E034-08M		4,4'-DDT	230		0.00	30.00	160.00	50.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
C18Y	E034-04T
E18Y	E034-08T

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and

Project Number and Name: ***4-12821 - AG FIELDS A6 PHASE BI***

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E034A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
B18Y	E034-02T	8081A	SO	4,4'-DDD	J	4.5	10	UG/KG
				DELTA-BHC	J	3.4	5.2	UG/KG
				ENDRIN	J	9.1	10	UG/KG
C18Y	E034-04T			4,4'-DDD	J	9.2	10	UG/KG
				DELTA-BHC	J	4.7	5.1	UG/KG
				ENDOSULFAN SULFATE	J	9.5	10	UG/KG
D18Y	E034-06T			DELTA-BHC	J	2.9	5.1	UG/KG
E17Y	E034-22T			4,4'-DDD	J	6.2	10	UG/KG
				DELTA-BHC	J	3.5	5.1	UG/KG
E18Y	E034-08T			4,4'-DDD	J	4.6	10	UG/KG
				DELTA-BHC	J	3.4	5.2	UG/KG
F18Y	E034-10T			DELTA-BHC	J	3.1	5.2	UG/KG
				DIELDRIN	J	9.9	10	UG/KG
				HEPTACHLOR EPOXIDE	J	3.9	5.2	UG/KG
G18Y	E034-12T			DELTA-BHC	J	2.3	5.2	UG/KG
				DIELDRIN	J	8.0	10	UG/KG

LDC #: 20914D3a

SDG #: 09E034A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 6/10/09

Page: 1 of 1

Reviewer: an

2nd Reviewer: a

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/4/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	~~N~~ A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	B18Y	11	C18YMSD	21	MBLK15	31	
2	C18Y	12	E18YMS	22		32	
3	D18Y	13	E18YMSD	23		33	
4	E18Y	14	G18YMS	24		34	
5	F18Y	15	G18YMSD	25		35	
6	G18Y	16		26		36	
7	G17Y	17		27		37	
8	F17Y	18		28		38	
9	E17Y	19		29		39	
10	C18YMS	20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914D3a
SDG #: 09E034A

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ap
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~? 20%
Level IV Only
Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20%)	RT (limit)	Associated Samples	Qualifications
	5/11/09	SE110378	RTX-CLPESTII	E	21	( )	1-4, 10-15	J/UJ/A
						( )		
						( )		
						( )		
						( )		
						( )		
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LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-May-2009	D17X	E054-31T	N	3550B	8081A	3
04-May-2009	C17X	E054-33T	N	3550B	8081A	3
04-May-2009	B17X	E054-35	N	3550B	8081A	3
04-May-2009	B17XMS	E054-35M	MS	3550B	8081A	3
04-May-2009	B17XMSD	E054-35S	MSD	3550B	8081A	3
04-May-2009	A17X	E054-37T	N	3550B	8081A	3
05-May-2009	B13X	E054-21T	N	3550B	8081A	3
05-May-2009	B14X	E054-23T	N	3550B	8081A	3
05-May-2009	B12X	E054-25I	N	3550B	8081A	3
05-May-2009	C12X	E054-27T	N	3550B	8081A	4
05-May-2009	D12X	E054-29T	N	3550B	8081A	3
05-May-2009	E12X	E054-11T	N	3550B	8081A	4
05-May-2009	F12X	E054-13T	N	3550B	8081A	3
05-May-2009	F11X	E054-15I	N	3550B	8081A	3
05-May-2009	E11X	E054-17I	N	3550B	8081A	3
05-May-2009	D11X	E054-19T	N	3550B	8081A	3
05-May-2009	C11X	E054-01T	N	3550B	8081A	4
05-May-2009	B11X	E054-03T	N	3550B	8081A	3
05-May-2009	B10X	E054-05T	N	3550B	8081A	3
05-May-2009	C10X	E054-07T	N	3550B	8081A	3
05-May-2009	D10X	E054-09I	N	3550B	8081A	3
05-May-2009	E10X	E054-39I	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E054										
8081A	B10X	SO	N							
				ENDOSULFAN II	10	8.3J		J	UG/KG	
8081A	B11X	SO	N							
				4,4'-DDD	10	6.8J		J	UG/KG	
				BETA-BHC	5.1	2.4J		J	UG/KG	
8081A	B12X	SO	N							
				ENDOSULFAN II	41	19J		J	UG/KG	
				ENDRIN ALDEHYDE	41	34J		J	UG/KG	
8081A	B13X	SO	N							
				BETA-BHC	5.0	2.9J		J	UG/KG	
8081A	B14X	SO	N							
				GAMMA-CHLORDANE	5.0	4.9J		J	UG/KG	
8081A	B17X	SO	N							
				BETA-BHC	5.2	2.2J		J	UG/KG	
				ENDOSULFAN SULFATE	10	9.1J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	3.2J		J	UG/KG	
8081A	C10X	SO	N							
				BETA-BHC	5.3	2.8J		J	UG/KG	
				ENDOSULFAN II	11	9.5J		J	UG/KG	
8081A	C11X	SO	N							
				4,4'-DDD	10	14		J	UG/KG	
				ALPHA-CHLORDANE	5.1	25		J	UG/KG	
				ENDOSULFAN II	10	7.0J		J	UG/KG	
				ENDRIN ALDEHYDE	10	14		J	UG/KG	
8081A	C12X	SO	N							
				BETA-BHC	5.0	2.7J		J	UG/KG	
				DELTA-BHC	5.0	6.9		J	UG/KG	
				ENDOSULFAN II	10	8.2J		J	UG/KG	
				ENDRIN ALDEHYDE	10	15		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E054										
8081A	C17X	SO	N							
				DELTA-BHC	5.1	3.8J		J	UG/KG	
				DIELDRIN	10	7.3J		J	UG/KG	
				ENDOSULFAN II	10	9.5J		J	UG/KG	
8081A	D10X	SO	N							
				DELTA-BHC	10	5.9J		J	UG/KG	
				DIELDRIN	20	8.6J		J	UG/KG	
				ENDRIN ALDEHYDE	20	18J		J	UG/KG	
				GAMMA-CHLORDANE	10	9.9J		J	UG/KG	
8081A	D11X	SO	N							
				DELTA-BHC	5.0	2.4J		J	UG/KG	
				DIELDRIN	10	8.8J		J	UG/KG	
				ENDOSULFAN II	10	6.1J		J	UG/KG	
				ENDOSULFAN SULFATE	10	6.2J		J	UG/KG	
8081A	D12X	SO	N							
				DELTA-BHC	5.0	4.3J		J	UG/KG	
				ENDOSULFAN II	10	7.3J		J	UG/KG	
8081A	D17X	SO	N							
				DELTA-BHC	5.0	3.1J		J	UG/KG	
				ENDOSULFAN II	10	7.2J		J	UG/KG	
8081A	E10X	SO	N							
				GAMMA-CHLORDANE	20	10J		J	UG/KG	
				TOXAPHENE	510	460		J	UG/KG	
8081A	E11X	SO	N							
				ENDRIN ALDEHYDE	20	15J		J	UG/KG	
				GAMMA-CHLORDANE	10	9.6J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E054										
8081A	E12X	SO	N							
				ALPHA-CHLORDANE	5.1	28		J	UG/KG	
				BETA-BHC	5.1	3.5J		J	UG/KG	
				DELTA-BHC	5.1	3.5J		J	UG/KG	
				DIELDRIN	10	8.1J		J	UG/KG	
				ENDOSULFAN II	10	7.7J		J	UG/KG	
				ENDRIN ALDEHYDE	10	13		J	UG/KG	
8081A	F11X	SO	N							
				ENDRIN ALDEHYDE	20	15J		J	UG/KG	
8081A	F12X	SO	N							
				DELTA-BHC	5.0	2.9J		J	UG/KG	
				ENDOSULFAN II	10	4.7J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E054

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E054

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E054 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
B10X	E054-05T	8081A	SO	ENDOSULFAN II	J	8.3	10	UG/KG
B11X	E054-03T			4,4'-DDD	J	6.8	10	UG/KG
				BETA-BHC	J	2.4	5.1	UG/KG
B12X	E054-25I			ENDOSULFAN II	J	19	41	UG/KG
				ENDRIN ALDEHYDE	J	34	41	UG/KG
B13X	E054-21T			BETA-BHC	J	2.9	5.0	UG/KG
B14X	E054-23T			GAMMA-CHLORDANE	J	4.9	5.0	UG/KG
B17X	E054-35			BETA-BHC	J	2.2	5.2	UG/KG
				ENDOSULFAN SULFATE	J	9.1	10	UG/KG
				GAMMA-CHLORDANE	J	3.2	5.2	UG/KG
C10X	E054-07T			BETA-BHC	J	2.8	5.3	UG/KG
				ENDOSULFAN II	J	9.5	11	UG/KG
C11X	E054-01T			ENDOSULFAN II	J	7.0	10	UG/KG
C12X	E054-27T			BETA-BHC	J	2.7	5.0	UG/KG
				ENDOSULFAN II	J	8.2	10	UG/KG
C17X	E054-33T			DELTA-BHC	J	3.8	5.1	UG/KG
				DIELDRIN	J	7.3	10	UG/KG
				ENDOSULFAN II	J	9.5	10	UG/KG
D10X	E054-09I			DELTA-BHC	J	5.9	10	UG/KG
				DIELDRIN	J	8.6	20	UG/KG
				ENDRIN ALDEHYDE	J	18	20	UG/KG
				GAMMA-CHLORDANE	J	9.9	10	UG/KG
D11X	E054-19T			DELTA-BHC	J	2.4	5.0	UG/KG
				DIELDRIN	J	8.8	10	UG/KG
				ENDOSULFAN II	J	6.1	10	UG/KG
				ENDOSULFAN SULFATE	J	6.2	10	UG/KG
D12X	E054-29T			DELTA-BHC	J	4.3	5.0	UG/KG
				ENDOSULFAN II	J	7.3	10	UG/KG
D17X	E054-31T			DELTA-BHC	J	3.1	5.0	UG/KG
				ENDOSULFAN II	J	7.2	10	UG/KG
E10X	E054-39I			GAMMA-CHLORDANE	J	10	20	UG/KG
				TOXAPHENE		460	510	UG/KG
E11X	E054-17I			ENDRIN ALDEHYDE	J	15	20	UG/KG
				GAMMA-CHLORDANE	J	9.6	10	UG/KG
E12X	E054-11T			BETA-BHC	J	3.5	5.1	UG/KG
				DELTA-BHC	J	3.5	5.1	UG/KG

Project Number and Name: 4-12821 - AG FIELDS A6 PHASE BI

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E054 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
E12X	E054-11T	8081A	SO	DIELDRIN	J	8.1	10	UG/KG
				ENDOSULFAN II	J	7.7	10	UG/KG
F11X	E054-15I			ENDRIN ALDEHYDE	J	15	20	UG/KG
F12X	E054-13T			DELTA-BHC	J	2.9	5.0	UG/KG
				ENDOSULFAN II	J	4.7	10	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E054 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
C11X	8081A	4,4'-DDD	72-54-8	J		Professional Judgement
C11X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
C11X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
C12X	8081A	DELTA-BHC	319-86-8	J		Professional Judgement
C12X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
E12X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
E12X	8081A	DELTA-BHC	319-86-8	J		Professional Judgement
E12X	8081A	DIELDRIN	60-57-1	J		Professional Judgement
E12X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement

LDC #: 20914E3a

SDG #: 09E054

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 6/10/09

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/4-5/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation. (No qual)(.4x > conc.)
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	A	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOILS

1	C11X**	11	B13X	21	B17XMS	31	MBLK15
2	B11X	12	B14X	22	B17XMSD	32	
3	B10X	13	B12X	23		33	
4	C10X	14	C12X**	24		34	
5	D10X	15	D12X	25		35	
6	E12X	16	D17X	26		36	
7	F12X	17	C17X	27		37	
8	F11X	18	B17X	28		38	
9	E11X	19	A17X	29		39	
10	D11X	20	E10X	30		40	

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	MCB Camp Pendleton, Ag Fields A6 Phase BI
Collection Date:	May 4 through May 5, 2009
LDC Report Date:	June 16, 2009
Matrix:	Soil
Parameters:	Chlorinated Pesticides
Validation Level:	NFESC Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	09E054

Sample Identification

C11X
E12X
C12X

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E054	All compounds reported below the RL.	J (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
C11X	alpha-Chlordane 4,4'-DDD Endrin aldehyde	115 116 92	J (all detects) J (all detects) J (all detects)	A
C12X	delta-BHC Endrin aldehyde	46 99	J (all detects) J (all detects)	A
E12X	delta-BHC alpha-Chlordane Dieldrin Endrin aldehyde	59 116 63 96	J (all detects) J (all detects) J (all detects) J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E054

SDG	Sample	Compound	Flag	A or P	Reason
09E054	C11X E12X C12X	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs
09E054	C11X	alpha-Chlordane 4,4'-DDD Endrin aldehyde	J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E054	C12X	delta-BHC Endrin aldehyde	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E054	E12X	delta-BHC alpha-Chlordane Dieldrin Endrin aldehyde	J (all detects) J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E054

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E054

No Sample Data Qualified in this SDG

LDC #: 20914E3a

SDG #: 09E054

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 6/10/09

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/4/09 - 5/5/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	SW	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

all soil

1	C11X**	~~11~~	~~B13X~~	~~21~~	~~B17XMS~~	31	MBLK1S
~~2~~	~~B11X~~	12	B14X	~~22~~	~~B17XMSD~~	32	
3	B10X	~~13~~	~~B12X~~	23		33	
4	C10X	14	C12X**	24		34	
~~5~~	~~D10X~~	~~15~~	~~D12X~~	25		35	
6	E12X**	16	D17X	26		36	
~~7~~	~~F12X~~	17	C17X	27		37	
8	F11X	18	B17X	28		38	
9	E11X	19	A17X	29		39	
~~10~~	~~D11X~~	~~20~~	~~E10X~~	30		40	

LDC #: 20914E3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recoveries ~~85-115~~ 20-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?			✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 20914E3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: dg
2nd Reviewer: ✓

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914E3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: dh
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?

Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	21/22	O	184 (30-160)	197 (30-160)	( )	18	~~Edit/A~~ No Qual (conc > 3x matrix)
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 20914E3q
SDG #: See cover

METHOD: ✓GC __ HPLC

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y N N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings bellow.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	S	1	115	Jdet/A
	M	↓	116	↓
	R	↓	92	↓
	C	14	46	Jdet/A
	R	↓	99	↓
	~~S~~			
	C	6	59	Jdet/A
	S	↓	116	↓
	1	↓	63	↓
	R	↓	96	↓

Comments: See sample calculation verification worksheet for recalculations

LDC #: 20914E3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: dc ~~JVG~~
2nd Reviewer: [signature]

METHOD: GC 8081 HPLC _____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	1Cal RTX CLP	5/1/09	C	14147	14147	13340.2	13340.2	16.6	16.6
			O	10696	10696	10273.3	10273.3	5.4	5.4
2	1 Cal RTX CLP II	↓	C	9590	9590	~~102~~ 9172.2	9172.2	11.9	11.9
			O	6949	6949	6789.0	6789.0	7.5	7.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914E3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE07004A	5/7/09	C	20.0	20.96	20.96	5	5
	RTX-CLP		O	40.0	37.14	37.14	7	7
2	SE07004B	↓	C	20.0	19.60	19.60	2	2
			O	40.0	37.28	37.28	7	7
	RTXCLPII							
3	SE07017A		C	20.0	22.18	22.18	11	11
	RTXCLP		O	40.0	40.06	40.06	0	0
4	SE07017B		C	20.0	21.23	21.23	6	6
	RTX CLPII	↓	O	40.0	39.98	39.98	0	0

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914E3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: dr
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX CLP	40.0	36.5	92	91	1
Tetrachloro-m-xylene		↓				
Decachlorobiphenyl	RTX CLP II		43.0	107	107	0
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 20914E3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: dl
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (µg/kg)		Spiked Sample Concentration (µg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma-~~delta-BHC	13.3	NA	15.5	NA	116	117				
4,4'-DDT	↓	↓	14.4	↓	108	108				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914E3q
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer:
2nd reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 1 0 :

$$\text{Conc.} = \frac{(589832 \times 10 \times 2.5)}{(6789.0 \times 30.3 \times 0.99)}$$

$= 73.1\ \mu g/kg$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.SS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
04-May-2009	B17YMS	E054-36M	MS	3550B	8081A	3
04-May-2009	B17YMSD	E054-36S	MSD	3550B	8081A	3
04-May-2009	B17Y	E054-36T	N	3550B	8081A	3
04-May-2009	A17Y	E054-38I	N	3550B	8081A	3
05-May-2009	B12Y	E054-26T	N	3550B	8081A	3
05-May-2009	D12Y	E054-30T	N	3550B	8081A	3
05-May-2009	E12Y	E054-12T	N	3550B	8081A	3
05-May-2009	F11Y	E054-16I	N	3550B	8081A	3
05-May-2009	F11YMS	E054-16M	MS	3550B	8081A	3
05-May-2009	F11YMSD	E054-16S	MSD	3550B	8081A	3
05-May-2009	E11Y	E054-18I	N	3550B	8081A	4
05-May-2009	D11Y	E054-20I	N	3550B	8081A	3
05-May-2009	B11Y	E054-04T	N	3550B	8081A	3
05-May-2009	B10Y	E054-06T	N	3550B	8081A	3
05-May-2009	D10Y	E054-10I	N	3550B	8081A	3
05-May-2009	D10YMS	E054-10M	MS	3550B	8081A	3
05-May-2009	D10YMSD	E054-10S	MSD	3550B	8081A	3
05-May-2009	E10Y	E054-40I	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E054A										
8081A	A17Y	SO	N							
				ALPHA-CHLORDANE	21	17J		J	UG/KG	
				DIELDRIN	41	31J		J	UG/KG	
				ENDOSULFAN II	41	22J		J	UG/KG	
8081A	B10Y	SO	N							
				DELTA-BHC	5.2	4.8J		J	UG/KG	
				ENDOSULFAN II	10	6.1J		J	UG/KG	
8081A	B11Y	SO	N							
				4,4'-DDD	10	5.6J		J	UG/KG	
8081A	B12Y	SO	N							
				ENDOSULFAN SULFATE	10	6.0J		J	UG/KG	
8081A	B17Y	SO	N							
				DIELDRIN	10	19		J	UG/KG	
				ENDRIN ALDEHYDE	10	42		J	UG/KG	
8081A	D10Y	SO	N							
				DELTA-BHC	10	5.4J		J	UG/KG	
				ENDRIN ALDEHYDE	20	18J		J	UG/KG	
8081A	D11Y	SO	N							
				DELTA-BHC	10	4.5J		J	UG/KG	
				ENDRIN ALDEHYDE	20	17J		J	UG/KG	
				GAMMA-CHLORDANE	10	9.1J		J	UG/KG	
8081A	D12Y	SO	N							
				ENDOSULFAN II	10	9.8J		J	UG/KG	
8081A	E10Y	SO	N							
				4,4'-DDD	21	19J		J	UG/KG	
				DELTA-BHC	10	5.0J		J	UG/KG	
				ENDRIN ALDEHYDE	21	17J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E054A										
8081A	E11Y	SO	N							
				4,4'-DDD	20	19J		J	UG/KG	
				ALPHA-CHLORDANE	10	43		J	UG/KG	
				DELTA-BHC	10	5.4J		J	UG/KG	
				ENDRIN ALDEHYDE	20	16J		J	UG/KG	
8081A	E12Y	SO	N							
				BETA-BHC	5.1	2.5J		J	UG/KG	
				DIELDRIN	10	9.1J		J	UG/KG	
				ENDOSULFAN II	10	7.1J		J	UG/KG	
8081A	F11Y	SO	N							
				DELTA-BHC	10	4.1J		J	UG/KG	
				ENDRIN ALDEHYDE	20	15J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09E054A

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09E054A	B17Y	8081A	60571	J		DIELDRIN	Matrix spike recovery
09E054A	B17Y	8081A	7421934	J		ENDRIN ALDEHYDE	Matrix spike recovery

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E054A

Matrix Spike / Matrix Spike Duplicate Recovery and RPD Outlier Report

Method Batch : CPE029S **Analysis Method :** 8081A **Analysis Date :** 05/13/2009
Preparation Batch : CPE029S **Preparation Type :** 3550B **Preparation Date :** 05/12/2009
Lab Reporting Batch : 09E054A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Matrix	Analyte Name	Reported * Percent Recovery	RPD	Project Limits (Percent) Rejection Point**	Lower Limit	Upper Limit	RPD
B17YMSD	E054-36S	SO	DIELDRIN	162		0.00	10.00	160.00	50.00
			ENDRIN ALDEHYDE	144		0.00	50.00	140.00	50.00
			HEPTACHLOR EPOXIDE	144		0.00	40.00	140.00	50.00
F11YMSD	E054-16S		HEPTACHLOR EPOXIDE	165		0.00	40.00	140.00	50.00

Associated Samples: Parent sample only

Client Sample ID	Lab Sample ID
B17Y	E054-36T
F11Y	E054-16I

* Only those Percent Recovery and/or RPD values outside project limits are listed in this report.
** Metal are also assessed against an upper rejection point of 150 percent for waters and 200 percent for soils and

Project Number and Name: 4-12821 - AG FIELDS A6 PHASE BI

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E054A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A17Y	E054-38I	8081A	SO	ALPHA-CHLORDANE	J	17	21	UG/KG
				DIELDRIN	J	31	41	UG/KG
				ENDOSULFAN II	J	22	41	UG/KG
B10Y	E054-06T			DELTA-BHC	J	4.8	5.2	UG/KG
				ENDOSULFAN II	J	6.1	10	UG/KG
B11Y	E054-04T			4,4'-DDD	J	5.6	10	UG/KG
B12Y	E054-26T			ENDOSULFAN SULFATE	J	6.0	10	UG/KG
D10Y	E054-10I			DELTA-BHC	J	5.4	10	UG/KG
				ENDRIN ALDEHYDE	J	18	20	UG/KG
D11Y	E054-20I			DELTA-BHC	J	4.5	10	UG/KG
				ENDRIN ALDEHYDE	J	17	20	UG/KG
				GAMMA-CHLORDANE	J	9.1	10	UG/KG
D12Y	E054-30T			ENDOSULFAN II	J	9.8	10	UG/KG
E10Y	E054-40I			4,4'-DDD	J	19	21	UG/KG
				DELTA-BHC	J	5.0	10	UG/KG
				ENDRIN ALDEHYDE	J	17	21	UG/KG
E11Y	E054-18I			4,4'-DDD	J	19	20	UG/KG
				DELTA-BHC	J	5.4	10	UG/KG
				ENDRIN ALDEHYDE	J	16	20	UG/KG
E12Y	E054-12T			BETA-BHC	J	2.5	5.1	UG/KG
				DIELDRIN	J	9.1	10	UG/KG
				ENDOSULFAN II	J	7.1	10	UG/KG
F11Y	E054-16I			DELTA-BHC	J	4.1	10	UG/KG
				ENDRIN ALDEHYDE	J	15	20	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E054A **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
E11Y	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
E11Y	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement

LDC #: 20914F3a

SDG #: 09E054A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 6/10/09

Page: 1 of 1

Reviewer: ap

2nd Reviewer: a

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/4-5/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	A	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOILS

1	B11Y	11	A17Y	21	MBLK15	31	
2	B10Y	12	E10Y	22		32	
3	D10Y	13	D10YMS	23		33	
4	E12Y	14	D10YMSD	24		34	
5	F11Y	15	F11YMS	25		35	
6	E11Y**	16	F11YMSD	26		36	
7	D11Y	17	B17YMS	27		37	
8	B12Y	18	B17YMSD	28		38	
9	D12Y	19		29		39	
10	B17Y	20		30		40	

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	MCB Camp Pendleton, Ag Fields A6 Phase BI
Collection Date:	May 4 through May 5, 2009
LDC Report Date:	June 16, 2009
Matrix:	Soil
Parameters:	Chlorinated Pesticides
Validation Level:	NFESC Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	09E054A

Sample Identification

E11Y

Introduction

This data review covers one soil sample samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E054A	All compounds reported below the RL.	J (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
E11Y	alpha-Chlordane Endrin aldehyde	113 69	J (all detects) J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E054A

SDG	Sample	Compound	Flag	A or P	Reason
09E054A	E11Y	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs
09E054A	E11Y	alpha-Chlordane Endrin aldehyde	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E054A

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E054A

No Sample Data Qualified in this SDG

LDC #: 20914F3a

SDG #: 09E054A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR(IV)

Date: 6/11/09

Page: 1 of 1

Reviewer: dr

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/4/09 - 5/5/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	~~SW~~ A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	SW	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	~~B11Y~~	11	~~A17Y~~	21	MBLK 1S	31	
2	B10Y	12	E10Y	22		32	
3	D10Y	13	D10YMS	23		33	
4	E12Y	14	D10YMSD	24		34	
~~5~~	~~F11Y~~	15	F11YMS	25		35	
6	E11Y**	16	F11YMSD	26		36	
~~7~~	~~D11Y~~	17	B17YMS	27		37	
8	B12Y	~~18~~	~~B17YMSD~~	28		38	
9	D12Y	19		29		39	
~~10~~	~~B17Y~~	20		30		40	

LDC #: 20914F3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~18%.0~~ 20 or percent recoveries ~~85-115%~~ 80-120?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	✓		✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 20914F3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914F39
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	13/14	J	-103 (50-150)	-184 (50-150)	( )	3	No qual conc > 4x spike
		O	~~-10 395~~ (30-160)	-73 (30-160)	( )	↓	↓
			-95 ( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
	15/16	~~B~~ G	( )	165 (40-140)	( )	5	J det/A
		J	( )	161 (50-150)	( )	↓	No qual conc > 4x spike
		O	183 (30-160)	366 (30-160)	( )	↓	↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
	17/18	J	( )	230 (50-150)	( )	10	no qual conc > 4x spike
		I	( )	162 (10-160)	( )		J det/A
		O	( )	237 (30-160)	( )		no qual conc > 4x spike
		R	( )	144 (50-140)	( )		J det/A
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

NO level 4 sample

MSDNew.wpd

LDC #: 20914F3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer:
2nd Reviewer:

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y N N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings bellow.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	9	6	113	Jdet/A
	R	↓	69	

Comments: See sample calculation verification worksheet for recalculations

COMQUA%DNew.wpd

LDC #: 20914F3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: dl ~~JVG~~
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	1Cal	5/1/09	C	14147	14147	13340.2	13340.2	16.6	16.6
	RTX CLP		O	10696	10696	10273.3	10273.3	5.4	5.4
2	1 Cal	↓	C	9590	9590	~~102~~ 9172.2	9172.2	11.9	11.9
	RTX CLP II		O	6949	6949	6789.0	6789.0	7.5	7.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914F3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: dh
2nd Reviewer: a

METHOD: GC 8081 HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE13004A	5/13/09	C	20.0	21.01	21.01	5	5
	RTX CLP		O	40.0	37.49	37.49	6	6
2	SE13004B		C	20.0	19.40	19.40	3	3
	RTX CLP II		O	40.0	36.98	36.98	8	8
3	SE13071A		C	20.0	22.32	22.32	12	12
	RTX CLP		O	40.0	37.30	37.30	7	7
4			C	20.0	21.28	21.28	6	6
	RTX CLP II		O	40.0	37.51	37.51	6	6

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914F3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: dr
2nd reviewer: ✓

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 6

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX-CLP	40.0	39.7	99	99	0
Tetrachloro-m-xylene	↓	↓				
Decachlorobiphenyl	↓	↓	52.6 ~~42.6~~	131	132	0
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 20914F3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer:
2nd Reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (µg/kg)		Spiked Sample Concentration (µg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma~~ delta-BHC	13.3	NA	15.6	NA	117	117				
4,4'-DDT	↓	↓	14.2	↓	107	107				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914F3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 6 C :

$$\text{Conc.} = \frac{(28971 \times 10 \times 5)}{(9172.2 \times 30.00 \times 0.976)}$$

$$= 5.39\ \mu g/kg$$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.SS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-May-2009	F10XMS	E072-21M	MS	3550B	8081A	3
05-May-2009	F10XMSD	E072-21S	MSD	3550B	8081A	3
05-May-2009	F10X	E072-21T	N	3550B	8081A	3
05-May-2009	G10X	E072-23T	N	3550B	8081A	3
05-May-2009	H10XMS	E072-25M	MS	3550B	8081A	3
05-May-2009	H10XMSD	E072-25S	MSD	3550B	8081A	3
05-May-2009	H10X	E072-25T	N	3550B	8081A	3
06-May-2009	B9X	E072-27T	N	3550B	8081A	4
06-May-2009	C9X	E072-29T	N	3550B	8081A	3
06-May-2009	D9XMS	E072-01M	MS	3550B	8081A	3
06-May-2009	D9XMSD	E072-01S	MSD	3550B	8081A	3
06-May-2009	D9X	E072-01T	N	3550B	8081A	4
06-May-2009	E9X	E072-03T	N	3550B	8081A	3
06-May-2009	F9X	E072-05T	N	3550B	8081A	3
06-May-2009	G9X	E072-07T	N	3550B	8081A	3
06-May-2009	H9X	E072-09T	N	3550B	8081A	3
06-May-2009	A8X	E072-31T	N	3550B	8081A	3
06-May-2009	B8X	E072-33T	N	3550B	8081A	3
06-May-2009	C8X	E072-35T	N	3550B	8081A	3
06-May-2009	D8X	E072-37T	N	3550B	8081A	3
06-May-2009	E8X	E072-39T	N	3550B	8081A	4
06-May-2009	F8X	E072-11T	N	3550B	8081A	3
06-May-2009	G8X	E072-13T	N	3550B	8081A	4
06-May-2009	H8X	E072-15T	N	3550B	8081A	3
06-May-2009	I8X	E072-17T	N	3550B	8081A	3
06-May-2009	J8X	E072-19T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E072										
8081A	A8X	SO	N							
				DIELDRIN	10	5.9J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.6J		J	UG/KG	
8081A	B8X	SO	N							
				DELTA-BHC	5.1	3.3J		J	UG/KG	
				DIELDRIN	10	5.1J		J	UG/KG	
				ENDOSULFAN II	10	5.3J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.3J		J	UG/KG	
8081A	B9X	SO	N							
				ALPHA-CHLORDANE	5.1	14		J	UG/KG	
				DELTA-BHC	5.1	3.1J		J	UG/KG	
				DIELDRIN	10	7.0J		J	UG/KG	
				ENDOSULFAN II	10	6.3J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.0J		J	UG/KG	
8081A	C8X	SO	N							
				DELTA-BHC	5.1	3.4J		J	UG/KG	
				ENDRIN ALDEHYDE	10	8.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.1J		J	UG/KG	
8081A	C9X	SO	N							
				DIELDRIN	10	5.3J		J	UG/KG	
				ENDOSULFAN II	10	6.2J		J	UG/KG	
8081A	D8X	SO	N							
				DELTA-BHC	5.1	3.5J		J	UG/KG	
				ENDOSULFAN II	10	5.4J		J	UG/KG	
				ENDRIN KETONE	10	4.2J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.2J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E072										
8081A	D9X	SO	N							
				ALPHA-CHLORDANE	8.1	28		J	UG/KG	
				DELTA-BHC	8.1	3.7J		J	UG/KG	
				DIELDRIN	16	6.6J		J	UG/KG	
				ENDOSULFAN II	16	6.7J		J	UG/KG	
				ENDRIN ALDEHYDE	16	18		J	UG/KG	
				GAMMA-CHLORDANE	8.1	7.8J		J	UG/KG	
8081A	E8X	SO	N							
				ALPHA-CHLORDANE	5.1	15		J	UG/KG	
				ENDOSULFAN II	10	5.8J		J	UG/KG	
				ENDRIN ALDEHYDE	10	11		J	UG/KG	
8081A	F10X	SO	N							
				DELTA-BHC	8.2	3.5J		J	UG/KG	
8081A	F8X	SO	N							
				DELTA-BHC	5.1	2.9J		J	UG/KG	
				DIELDRIN	10	5.0J		J	UG/KG	
				ENDOSULFAN II	10	6.1J		J	UG/KG	
8081A	F9X	SO	N							
				DELTA-BHC	8.1	6.5J		J	UG/KG	
				ENDOSULFAN II	16	7.1J		J	UG/KG	
8081A	G8X	SO	N							
				ALPHA-CHLORDANE	5.1	15		J	UG/KG	
				DIELDRIN	10	4.3J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.3J		J	UG/KG	
8081A	G9X	SO	N							
				ALDRIN	8.1	7.7J		J	UG/KG	
				DELTA-BHC	8.1	5.8J		J	UG/KG	
				ENDRIN ALDEHYDE	16	15J		J	UG/KG	
8081A	H10X	SO	N							
				ENDRIN ALDEHYDE	16	12J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E072										
8081A	H8X	SO	N							
				DIELDRIN	10	3.7J		J	UG/KG	
				ENDOSULFAN II	10	4.5J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.9J		J	UG/KG	
8081A	I8X	SO	N							
				4,4'-DDD	10	9.7J		J	UG/KG	
				DELTA-BHC	5.1	3.7J		J	UG/KG	
				ENDRIN ALDEHYDE	10	8.7J		J	UG/KG	
8081A	J8X	SO	N							
				4,4'-DDD	10	8.1J		J	UG/KG	
				DELTA-BHC	5.1	3.6J		J	UG/KG	
				ENDRIN ALDEHYDE	10	7.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.4J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E072

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E072

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E072 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A8X	E072-31T	8081A	SO	DIELDRIN	J	5.9	10	UG/KG
				GAMMA-CHLORDANE	J	2.6	5.1	UG/KG
B8X	E072-33T			DELTA-BHC	J	3.3	5.1	UG/KG
				DIELDRIN	J	5.1	10	UG/KG
				ENDOSULFAN II	J	5.3	10	UG/KG
				GAMMA-CHLORDANE	J	4.3	5.1	UG/KG
B9X	E072-27T			DELTA-BHC	J	3.1	5.1	UG/KG
				DIELDRIN	J	7.0	10	UG/KG
				ENDOSULFAN II	J	6.3	10	UG/KG
				GAMMA-CHLORDANE	J	4.0	5.1	UG/KG
C8X	E072-35T			DELTA-BHC	J	3.4	5.1	UG/KG
				ENDRIN ALDEHYDE	J	8.8	10	UG/KG
				GAMMA-CHLORDANE	J	4.1	5.1	UG/KG
C9X	E072-29T			DIELDRIN	J	5.3	10	UG/KG
				ENDOSULFAN II	J	6.2	10	UG/KG
D8X	E072-37T			DELTA-BHC	J	3.5	5.1	UG/KG
				ENDOSULFAN II	J	5.4	10	UG/KG
				ENDRIN KETONE	J	4.2	10	UG/KG
				GAMMA-CHLORDANE	J	4.2	5.1	UG/KG
D9X	E072-01T			DELTA-BHC	J	3.7	8.1	UG/KG
				DIELDRIN	J	6.6	16	UG/KG
				ENDOSULFAN II	J	6.7	16	UG/KG
				GAMMA-CHLORDANE	J	7.8	8.1	UG/KG
E8X	E072-39T			ENDOSULFAN II	J	5.8	10	UG/KG
F10X	E072-21T			DELTA-BHC	J	3.5	8.2	UG/KG
F8X	E072-11T			DELTA-BHC	J	2.9	5.1	UG/KG
				DIELDRIN	J	5.0	10	UG/KG
				ENDOSULFAN II	J	6.1	10	UG/KG
F9X	E072-05T			DELTA-BHC	J	6.5	8.1	UG/KG
				ENDOSULFAN II	J	7.1	16	UG/KG
G8X	E072-13T			DIELDRIN	J	4.3	10	UG/KG
				ENDRIN ALDEHYDE	J	9.3	10	UG/KG
G9X	E072-07T			ALDRIN	J	7.7	8.1	UG/KG
				DELTA-BHC	J	5.8	8.1	UG/KG
				ENDRIN ALDEHYDE	J	15	16	UG/KG
H10X	E072-25T			ENDRIN ALDEHYDE	J	12	16	UG/KG

Project Number and Name: **4-12821 - AG FIELDS A6 PHASE BI**

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E072 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
H8X	E072-15T	8081A	SO	DIELDRIN	J	3.7	10	UG/KG
				ENDOSULFAN II	J	4.5	10	UG/KG
				ENDRIN ALDEHYDE	J	9.9	10	UG/KG
I8X	E072-17T			4,4'-DDD	J	9.7	10	UG/KG
				DELTA-BHC	J	3.7	5.1	UG/KG
				ENDRIN ALDEHYDE	J	8.7	10	UG/KG
J8X	E072-19T			4,4'-DDD	J	8.1	10	UG/KG
				DELTA-BHC	J	3.6	5.1	UG/KG
				ENDRIN ALDEHYDE	J	7.4	10	UG/KG
				GAMMA-CHLORDANE	J	4.4	5.1	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E072 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
B9X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
B9X	8081A	ENDOSULFAN II	33213-65-9	J		Professional Judgement
D9X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
D9X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
E8X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
E8X	8081A	ENDOSULFAN II	33213-65-9	J		Professional Judgement
E8X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
G8X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
G8X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement

LDC #: 20914G3a

SDG #: 09E072

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 6/10/09

Page: 1 of 1

Reviewer: ayc

2nd Reviewer: of

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/5-6/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A~~SW~~	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation. (4,4-DDE > 4,4-DDT > 4x spike) No quant
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	A	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOILS

1	D9X**	11	F10X	21	D9XMS	31	MBLKIS
2	E9X	12	G10X	22	D9XMSD	32	
3	F9X	13	H10X	23	F10XMS	33	
4	G9X	14	B9X**	24	F10XMSD	34	
5	H9X	15	C9X	25	H10XMS	35	
6	F8X	16	A8X	26	H10XMSD	36	
7	G8X**	17	B8X	27		37	
8	H8X	18	C8X	28		38	
9	I8X	19	D8X	29		39	
10	J8X	20	E8X**	30		40	

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E072

SDG	Sample	Compound	Flag	A or P	Reason
09E072	D9X G8X B9X E8X	All compounds reported below the RL	J (all detects)	A	Compound quantitation and CRQLs
09E072	D9X G8X	alpha-Chlordane Endrin aldehyde	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E072	B9X	alpha-Chlordane Endosulfan II	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E072	E8X	alpha-Chlordane Endosulfan II Endrin aldehyde	J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E072

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E072

No Sample Data Qualified in this SDG

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	MCB Camp Pendleton, Ag Fields A6 Phase BI
Collection Date:	May 5 through May 6, 2009
LDC Report Date:	June 16, 2009
Matrix:	Soil
Parameters:	Chlorinated Pesticides
Validation Level:	NFESC Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	09E072

Sample Identification

D9X
G8X
B9X
E8X

Introduction

This data review covers 4 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E072	All compounds reported below the RL	J (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
D9X	alpha-Chlordane Endrin aldehyde	131 73	J (all detects) J (all detects)	A
G8X	alpha-Chlordane Endrin aldehyde	123 76	J (all detects) J (all detects)	A
B9X	alpha-Chlordane Endosulfan II	122 55	J (all detects) J (all detects)	A
E8X	alpha-Chlordane Endosulfan II Endrin aldehyde	123 52 99	J (all detects) J (all detects) J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

LDC #: 20914G3a

SDG #: 09E072

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 6/11/09

Page: 1 of 1

Reviewer: a

2nd Reviewer: a

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/5/09 - 5/6/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	icv/ccv ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	SW	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	D9X**	11	F10X	21	D9XMS	31	MBLK1S
2	E9X	12	G10X	22	D9XMSD	32	
3	F9X	13	H10X	23	F10XMS	33	
4	G9X	14	B9X**	24	F10XMSD	34	
5	H9X	15	C9X	25	H10XMS	35	
6	F8X	16	A8X	26	H10XMSD	36	
7	G8X**	17	B8X	27		37	
8	H8X	18	C8X	28		38	
9	I8X	19	D8X	29		39	
10	J8X	20	E8X**	30		40	

LDC #: 20914G-3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recoveries ~~85-115~~ 20-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	✓		✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 20914G3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914G-3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	21/22	J	193 (50-150)	( )	( )	1	No qual. conc > 4x spike
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
	23/24	S	182 (50-140)	( )	( )	11	~~J det / A~~ No qual*
		J	346 (50-150)	177 (50-150)	( )	↓	No qual conc > 4x spike
		O	272 (30-160)	169 (30-160)	( )	↓	↓
			( )	( )	( )		* (4x dil matrix)
			( )	( )	( )		
			( )	( )	( )		
	25/26	J	229 (50-150)	15 (50-150)	( )	13	No qual conc > 4x spike
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 20914G 3a
SDG #: See cover

METHOD: ✓ GC ___ HPLC

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y N N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings bellow.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	S	1	131	J det/A
	R	↓	73	↓
	~~X~~ S	7	123	J det/A
	R	↓	76	↓
	S	14	122	J det/A
	L	↓	55	↓
	S	20	123	J det/A
	L	↓	52	↓
	R	↓	99	↓

Comments: See sample calculation verification worksheet for recalculations

LDC #: 20914G3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: dl JYG
2nd Reviewer: C

METHOD: GC 8081 HPLC

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	1Cal	5/1/09	C	14147	14147	13340.2	13340.2	16.6	16.6
	RTX CLP		O	10696	10696	10273.3	10273.3	5.4	5.4
2	1 Cal	↓	C	9590	9590	~~102~~ 9172.2	9172.2	11.9	11.9
	RTX CLP II		O	6949	6949	6789.0	6789.0	7.5	7.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914G3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: dh
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = Initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE08004A	5/8/09	C	20.0	20.88	20.88	4	4
	RTX CLP		O	40.0	37.78	37.78	6	6
2	SE08004B		C	20.0	19.23	19.23	4	4
	RTX CLP II		O	40.0	37.86	37.86	5	5
3	SE08017A		C	20.0	22.44	22.44	12	12
	RTX CLP		O	40.0	42.17	42.17	5	5
4	SE08017B		C	20.0	21.15	21.15	6	6
	RTX CLP II		O	40.0	40.67	40.67	2	2

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914G-3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE080301A	5/8/09	C	20.0	21.59	21.59	8	8
	CLP-RTX		O	40.0	38.69	38.69	3	3
2	SE080308	↓	C	20.0	20.81	20.81	4	4
	CLP-RTX II		O	40.0	38.70	38.70	3	3
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914C39
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: 2
2nd reviewer: 4

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 20

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX CLPII	40.0	38.4	96	96	
Tetrachloro-m-xylene		↓				
Decachlorobiphenyl	RTX CLP	↓	43.8	109	110	1
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 20914G-3q
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = I MS - MSD I * 2/(MS + MSD)

MS = Matrix spike percent recovery; MSD = Matrix spike duplicate percent recovery

MS/MSD samples: 21/22

Compound	Spike Added (µg/kg)		Sample Concentration (µg/kg)	Spiked Sample Concentration (µg/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
~~gamma~~ delta-BHC	13.5	13.5	3.7	17.0	15.7	99	99	89	89	8	8
4,4'-DDT	↓	↓	100	121	122	156	156	163	163	1	1

Comments: Refer ot Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

MSDCLC.3S

LDC #: 20914G-3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery; LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma~~ delta-BHC	13.3	NA	14.2	NA	107	107				
4,4'-DDT	↓	↓	13.5	↓	101	102				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914G-3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 20 O :

$$\text{Conc.} = \left(\frac{533169 \times \cancel{70}\ 10 \times 2.5}{6789.0 \times 30.02 \times 0.977} \right)$$

$$= 66.9\ \mu g/kg$$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.3S

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
05-May-2009	F10Y	E072-22I	N	3550B	8081A	3
05-May-2009	H10Y	E072-26T	N	3550B	8081A	3
06-May-2009	D9Y	E072-02I	N	3550B	8081A	3
06-May-2009	E9Y	E072-04I	N	3550B	8081A	3
06-May-2009	F9Y	E072-06I	N	3550B	8081A	3
06-May-2009	G9Y	E072-08I	N	3550B	8081A	3
06-May-2009	H9Y	E072-10I	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E072A										
8081A	D9Y	SO	N							
				DELTA-BHC	10	6.1J		J	UG/KG	
				ENDOSULFAN II	20	8.5J		J	UG/KG	
				GAMMA-CHLORDANE	10	9.9J		J	UG/KG	
8081A	E9Y	SO	N							
				DELTA-BHC	10	5.5J		J	UG/KG	
				ENDOSULFAN II	21	9.8J		J	UG/KG	
8081A	F10Y	SO	N							
				DELTA-BHC	10	5.5J		J	UG/KG	
				ENDOSULFAN II	21	7.9J		J	UG/KG	
				ENDRIN ALDEHYDE	21	19J		J	UG/KG	
8081A	F9Y	SO	N							
				DELTA-BHC	10	4.2J		J	UG/KG	
				ENDOSULFAN II	20	9.2J		J	UG/KG	
8081A	G9Y	SO	N							
				DELTA-BHC	10	5.8J		J	UG/KG	
				ENDRIN ALDEHYDE	21	18J		J	UG/KG	
8081A	H10Y	SO	N							
				DELTA-BHC	5.1	4.0J		J	UG/KG	
				ENDOSULFAN II	10	5.9J		J	UG/KG	
8081A	H9Y	SO	N							
				DELTA-BHC	10	5.6J		J	UG/KG	
				ENDRIN ALDEHYDE	21	18J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E072A

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E072A

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E072A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
D9Y	E072-02I	8081A	SO	DELTA-BHC	J	6.1	10	UG/KG
				ENDOSULFAN II	J	8.5	20	UG/KG
				GAMMA-CHLORDANE	J	9.9	10	UG/KG
E9Y	E072-04I			DELTA-BHC	J	5.5	10	UG/KG
				ENDOSULFAN II	J	9.8	21	UG/KG
F10Y	E072-22I			DELTA-BHC	J	5.5	10	UG/KG
				ENDOSULFAN II	J	7.9	21	UG/KG
				ENDRIN ALDEHYDE	J	19	21	UG/KG
F9Y	E072-06I			DELTA-BHC	J	4.2	10	UG/KG
				ENDOSULFAN II	J	9.2	20	UG/KG
G9Y	E072-08I			DELTA-BHC	J	5.8	10	UG/KG
				ENDRIN ALDEHYDE	J	18	21	UG/KG
H10Y	E072-26T			DELTA-BHC	J	4.0	5.1	UG/KG
				ENDOSULFAN II	J	5.9	10	UG/KG
H9Y	E072-10I			DELTA-BHC	J	5.6	10	UG/KG
				ENDRIN ALDEHYDE	J	18	21	UG/KG

LDC #: 20914H3a

VALIDATION COMPLETENESS WORKSHEET

ADR

SDG #: 09E072A

Laboratory: EMAX Laboratories, Inc.

Date: 6/9/09

Page: 1 of 1

Reviewer: gm

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/5 - 6/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	~~N~~ A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	D9Y	11	MBLK1A	21		31	
2	E9Y	12		22		32	
3	F9Y	13		23		33	
4	G9Y	14		24		34	
5	H9Y	15		25		35	
6	F10Y	16		26		36	
7	H10Y	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

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The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-May-2009	A7X	E098-01T	N	3550B	8081A	4
06-May-2009	B7X	E098-03T	N	3550B	8081A	3
06-May-2009	C7X	E098-05T	N	3550B	8081A	3
06-May-2009	D7X	E098-07T	N	3550B	8081A	3
06-May-2009	E7X	E098-09T	N	3550B	8081A	3
06-May-2009	F7X	E098-11T	N	3550B	8081A	3
06-May-2009	G7X	E098-13T	N	3550B	8081A	3
06-May-2009	H7X	E098-15T	N	3550B	8081A	3
07-May-2009	I7X	E098-17T	N	3550B	8081A	3
07-May-2009	J7XMS	E098-19M	MS	3550B	8081A	3
07-May-2009	J7XMSD	E098-19S	MSD	3550B	8081A	3
07-May-2009	J7X	E098-19T	N	3550B	8081A	3
07-May-2009	A6X	E098-21T	N	3550B	8081A	3
07-May-2009	B6X	E098-23T	N	3550B	8081A	3
07-May-2009	C6X	E098-25T	N	3550B	8081A	3
07-May-2009	D6X	E098-27T	N	3550B	8081A	3
07-May-2009	E6X	E098-29T	N	3550B	8081A	4
07-May-2009	F6X	E098-31T	N	3550B	8081A	3
07-May-2009	G6X	E098-33T	N	3550B	8081A	3
07-May-2009	H6X	E098-35T	N	3550B	8081A	3
07-May-2009	I6XMS	E098-37M	MS	3550B	8081A	3
07-May-2009	I6XMSD	E098-37S	MSD	3550B	8081A	3
07-May-2009	I6X	E098-37T	N	3550B	8081A	3
07-May-2009	J6X	E098-39T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E098										
8081A	A6X	SO	N							
				ENDOSULFAN II	10	5.1J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.2J		J	UG/KG	
8081A	A7X	SO	N							
				ALPHA-CHLORDANE	5.1	5.5		J	UG/KG	
				DELTA-BHC	5.1	2.6J		J	UG/KG	
				DIELDRIN	10	5.6J		J	UG/KG	
				ENDOSULFAN II	10	3.7J		J	UG/KG	
				ENDRIN ALDEHYDE	10	8.1J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.0J		J	UG/KG	
8081A	B6X	SO	N							
				DELTA-BHC	5.1	4.0J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.1J		J	UG/KG	
8081A	B7X	SO	N							
				DELTA-BHC	5.1	3.5J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.9J		J	UG/KG	
8081A	C6X	SO	N							
				ALDRIN	5.2	1.9J		J	UG/KG	
				DELTA-BHC	5.2	4.4J		J	UG/KG	
				DIELDRIN	10	3.5J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	4.4J		J	UG/KG	
8081A	C7X	SO	N							
				4,4'-DDD	10	3.3J		J	UG/KG	
				DELTA-BHC	5.1	2.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.4J		J	UG/KG	
8081A	D6X	SO	N							
				DELTA-BHC	5.1	3.7J		J	UG/KG	
				ENDRIN ALDEHYDE	10	5.6J		J	UG/KG	
8081A	D7X	SO	N							
				DELTA-BHC	5.1	3.3J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.9J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E098										
8081A	E6X	SO	N							
				ALPHA-CHLORDANE	5.1	8.8		J	UG/KG	
				ENDRIN ALDEHYDE	10	6.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.3J		J	UG/KG	
8081A	E7X	SO	N							
				DELTA-BHC	5.1	3.5J		J	UG/KG	
				ENDRIN ALDEHYDE	10	7.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.2J		J	UG/KG	
8081A	F6X	SO	N							
				DELTA-BHC	5.1	3.4J		J	UG/KG	
				ENDOSULFAN II	10	3.7J		J	UG/KG	
				ENDRIN ALDEHYDE	10	7.7J		J	UG/KG	
8081A	F7X	SO	N							
				DELTA-BHC	5.1	3.6J		J	UG/KG	
				DIELDRIN	10	3.1J		J	UG/KG	
				ENDOSULFAN II	10	3.6J		J	UG/KG	
8081A	G6X	SO	N							
				DELTA-BHC	5.1	3.1J		J	UG/KG	
				ENDOSULFAN II	10	3.8J		J	UG/KG	
				ENDRIN ALDEHYDE	10	8.0J		J	UG/KG	
8081A	G7X	SO	N							
				4,4'-DDD	10	4.1J		J	UG/KG	
8081A	H6X	SO	N							
				DELTA-BHC	5.1	3.2J		J	UG/KG	
8081A	H7X	SO	N							
				DELTA-BHC	5.1	4.0J		J	UG/KG	
8081A	I6X	SO	N							
				DELTA-BHC	5.1	3.8J		J	UG/KG	
				ENDRIN ALDEHYDE	10	6.4J		J	UG/KG	
8081A	I7X	SO	N							
				DELTA-BHC	5.1	3.4J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E098										
8081A	J6X	SO	N							
				4,4'-DDD	10	6.0J		J	UG/KG	
				DELTA-BHC	5.1	3.3J		J	UG/KG	
				ENDRIN ALDEHYDE	10	6.7J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.2J		J	UG/KG	
8081A	J7X	SO	N							
				DELTA-BHC	5.1	4.0J		J	UG/KG	
				ENDRIN ALDEHYDE	10	6.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.6J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E098

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E098

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E098 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A6X	E098-21T	8081A	SO	ENDOSULFAN II	J	5.1	10	UG/KG
				GAMMA-CHLORDANE	J	3.2	5.1	UG/KG
A7X	E098-01T			DELTA-BHC	J	2.6	5.1	UG/KG
				DIELDRIN	J	5.6	10	UG/KG
				ENDOSULFAN II	J	3.7	10	UG/KG
				ENDRIN ALDEHYDE	J	8.1	10	UG/KG
				GAMMA-CHLORDANE	J	2.0	5.1	UG/KG
B6X	E098-23T			DELTA-BHC	J	4.0	5.1	UG/KG
				GAMMA-CHLORDANE	J	3.1	5.1	UG/KG
B7X	E098-03T			DELTA-BHC	J	3.5	5.1	UG/KG
				GAMMA-CHLORDANE	J	2.9	5.1	UG/KG
C6X	E098-25T			ALDRIN	J	1.9	5.2	UG/KG
				DELTA-BHC	J	4.4	5.2	UG/KG
				DIELDRIN	J	3.5	10	UG/KG
				GAMMA-CHLORDANE	J	4.4	5.2	UG/KG
C7X	E098-05T			4,4'-DDD	J	3.3	10	UG/KG
				DELTA-BHC	J	2.6	5.1	UG/KG
				GAMMA-CHLORDANE	J	4.4	5.1	UG/KG
D6X	E098-27T			DELTA-BHC	J	3.7	5.1	UG/KG
				ENDRIN ALDEHYDE	J	5.6	10	UG/KG
D7X	E098-07T			DELTA-BHC	J	3.3	5.1	UG/KG
				GAMMA-CHLORDANE	J	2.9	5.1	UG/KG
E6X	E098-29T			ENDRIN ALDEHYDE	J	6.4	10	UG/KG
				GAMMA-CHLORDANE	J	3.3	5.1	UG/KG
E7X	E098-09T			DELTA-BHC	J	3.5	5.1	UG/KG
				ENDRIN ALDEHYDE	J	7.6	10	UG/KG
				GAMMA-CHLORDANE	J	3.2	5.1	UG/KG
F6X	E098-31T			DELTA-BHC	J	3.4	5.1	UG/KG
				ENDOSULFAN II	J	3.7	10	UG/KG
				ENDRIN ALDEHYDE	J	7.7	10	UG/KG
F7X	E098-11T			DELTA-BHC	J	3.6	5.1	UG/KG
				DIELDRIN	J	3.1	10	UG/KG
				ENDOSULFAN II	J	3.6	10	UG/KG
G6X	E098-33T			DELTA-BHC	J	3.1	5.1	UG/KG
				ENDOSULFAN II	J	3.8	10	UG/KG
				ENDRIN ALDEHYDE	J	8.0	10	UG/KG

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E098 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
G7X	E098-13T	8081A	SO	4,4'-DDD	J	4.1	10	UG/KG
H6X	E098-35T			DELTA-BHC	J	3.2	5.1	UG/KG
H7X	E098-15T			DELTA-BHC	J	4.0	5.1	UG/KG
I6X	E098-37T			DELTA-BHC	J	3.8	5.1	UG/KG
				ENDRIN ALDEHYDE	J	6.4	10	UG/KG
I7X	E098-17T			DELTA-BHC	J	3.4	5.1	UG/KG
J6X	E098-39T			4,4'-DDD	J	6.0	10	UG/KG
				DELTA-BHC	J	3.3	5.1	UG/KG
				ENDRIN ALDEHYDE	J	6.7	10	UG/KG
				GAMMA-CHLORDANE	J	4.2	5.1	UG/KG
J7X	E098-19T			DELTA-BHC	J	4.0	5.1	UG/KG
				ENDRIN ALDEHYDE	J	6.6	10	UG/KG
				GAMMA-CHLORDANE	J	4.6	5.1	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E098 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
A7X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
A7X	8081A	DELTA-BHC	319-86-8	J		Professional Judgement
A7X	8081A	DIELDRIN	60-57-1	J		Professional Judgement
A7X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
E6X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
E6X	8081A	GAMMA-CHLORDANE	5103-74-2	J		Professional Judgement

LDC #: 20914I3a

SDG #: 09E098

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR/IV

Date: 6/9/09

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/6-7/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	N	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOILS

1	A7X**	11	A6X	21	J7XMS	31	
2	B7X	12	B6X	22	J7XMSD	32	
3	C7X	13	C6X	23	I6XMS	33	
4	D7X	14	D6X	24	I6XMSD	34	
5	E7X	15	E6X**	25	MBLKIS	35	
6	F7X	16	F6X	26		36	
7	G7X	17	G6X	27		37	
8	H7X	18	H6X	28		38	
9	I7X	19	I6X	29		39	
10	J7X	20	J6X	30		40	

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	MCB Camp Pendleton, Ag Fields A6 Phase BI
Collection Date:	May 6 through May 7, 2009
LDC Report Date:	June 16, 2009
Matrix:	Soil
Parameters:	Chlorinated Pesticides
Validation Level:	NFESC Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	09E098

Sample Identification

A7X
E6X

Introduction

This data review covers 2 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E098	All compounds reported below the RL.	J (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
A7X	delta-BHC alpha-Chlordane Dieldrin Endrin aldehyde	42 79 58 46	J (all detects) J (all detects) J (all detects) J (all detects)	A
E6X	gamma-Chlordane alpha-Chlordane	44 129	J (all detects) J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E098

SDG	Sample	Compound	Flag	A or P	Reason
09E098	A7X E6X	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs
09E098	A7X	delta-BHC alpha-Chlordane Dieldrin Endrin aldehyde	J (all detects) J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E098	E6X	gamma-Chlordane alpha-Chlordane	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E098

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E098

No Sample Data Qualified in this SDG

LDC #: 20914I3a

SDG #: 09E098

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR(IV)

Date: 6/12/09

Page: 1 of 1

Reviewer: d

2nd Reviewer: q

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/6/09 – 5/7/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	A	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	A7X**	11	A6X	21	J7XMS	31	MBLK1S
~~2~~	~~B7X~~	12	B6X	22	J7XMSD	32	
3	C7X	13	C6X	23	I6XMS	33	
4	D7X	~~14~~	~~D6X~~	~~24~~	~~I6XMSD~~	34	
5	E7X	15	E6X**	25		35	
6	F7X	~~16~~	~~F6X~~	26		36	
7	G7X	17	G6X	27		37	
8	H7X	18	H6X	28		38	
9	I7X	19	I6X	29		39	
~~10~~	~~J7X~~	~~20~~	~~J6X~~	30		40	

LDC #: 20914 I 3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: d
2nd Reviewer: ✓

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recoveries ~~85-115%~~ 80-120?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓		✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 20914 L 3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914 13a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: dh
2nd Reviewer: d

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y N N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings bellow.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	C	1	42	J det /A
	S	↓	79	↓
	I	↓	58	↓
	R	↓	46	↓
	T	15	44	↓
	S	↓	129	↓

Comments: See sample calculation verification worksheet for recalculations

COMQUA%DNew.wpd

LDC #: 20914 1 3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: ~~JVG~~
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	1Cal	5/1/09	C	14147	14147	13340.2	13340.2	16.6	16.6
	RTX CLP		O	10696	10696	10273.3	10273.3	5.4	5.4
2	1 Cal	↓	C	9590	9590	~~102~~ 9172.2	9172.2	11.9	11.9
	RTX CLP II		O	6949	6949	6789.0	6789.0	7.5	7.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914 13a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: dh
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE08030A ~~SE08030A~~	5/8/09	C	20.0	21.59	21.59	8	8
	RTX CLP		O	40.0	38.69	38.69	3	3
2	SE08030B	↓	C	20.0	20.81	20.81	4	4
	RTX CLP II		O	40.0	~~38.49~~ 38.70	38.70	3	3
3	SE08081A	5/9/09	C	20.0	21.82	21.82	9	9
	RTX CLP		O	40.0	36.01	36.01	10	10
4	SE08081B	↓	C	20.0	20.40	20.40	2	2
	RTX CLP II		O	40.0	36.10	36.10	10	10

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914 | 3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC 8081 **HPLC** _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE080944	5/9/09	C	20.0	21.81	21.81	9	9
	RTX CLP		O	40.0	35.77	35.77	11	11
2	SE0809HB		C	20.0	18.75	18.75	6	6
	RTX CLP II		O	40.0	35.32	35.32	12	12
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30914 I 3ka
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: d
2nd reviewer: ✓

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 15

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX-CLP II	40.0	41.1	103	103	
Tetrachloro-m-xylene		↓				
Decachlorobiphenyl	RTX CLP		46.1	115	115	
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 20914 / 3B
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (µg/kg)		Spiked Sample Concentration (µg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
delta ~~gamma~~-BHC	13.3	NA	16.3	NA	122	122				
4,4'-DDT	↓	↓	14.9	↓	112	112				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 209141 3q
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer:
2nd reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 15 0 :

$$\text{Conc.} = \frac{(241064 \times 10 \times 2.5)}{(6789.0 \times 30.03 \times 0.974)}$$

$= 30.36\ \mu g/kg$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.SS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-May-2009	A5X	E117-11T	N	3550B	8081A	3
07-May-2009	B5X	E117-13T	N	3550B	8081A	3
07-May-2009	C5X	E117-05T	N	3550B	8081A	3
07-May-2009	D5X	E117-03T	N	3550B	8081A	3
07-May-2009	E5X	E117-07T	N	3550B	8081A	3
07-May-2009	F5XMS	E117-09M	MS	3550B	8081A	3
07-May-2009	F5XMSD	E117-09S	MSD	3550B	8081A	3
07-May-2009	F5X	E117-09T	N	3550B	8081A	3
07-May-2009	G5X	E117-19T	N	3550B	8081A	3
07-May-2009	H5X	E117-01T	N	3550B	8081A	3
07-May-2009	I5X	E117-15T	N	3550B	8081A	3
07-May-2009	J5X	E117-17T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E117										
8081A	A5X	SO	N							
				ENDOSULFAN II	10	4.2J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.3J		J	UG/KG	
8081A	B5X	SO	N							
				BETA-BHC	5.1	3.7J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.2J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.4J		J	UG/KG	
8081A	C5X	SO	N							
				DELTA-BHC	5.1	3.6J		J	UG/KG	
				ENDRIN ALDEHYDE	10	7.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.0J		J	UG/KG	
8081A	D5X	SO	N							
				4,4'-DDD	10	5.4J		J	UG/KG	
				ENDRIN ALDEHYDE	10	7.1J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.7J		J	UG/KG	
8081A	E5X	SO	N							
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				ENDRIN ALDEHYDE	10	7.3J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.0J		J	UG/KG	
8081A	F5X	SO	N							
				DIELDRIN	10	3.9J		J	UG/KG	
				ENDOSULFAN II	10	4.9J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.9J		J	UG/KG	
8081A	G5X	SO	N							
				DIELDRIN	10	3.9J		J	UG/KG	
				ENDOSULFAN II	10	4.9J		J	UG/KG	
8081A	H5X	SO	N							
				ENDOSULFAN II	10	3.8J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.4J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E117										
8081A	I5X	SO	N							
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				ENDOSULFAN II	10	4.0J		J	UG/KG	
				ENDRIN ALDEHYDE	10	8.7J		J	UG/KG	
8081A	J5X	SO	N							
				DELTA-BHC	5.1	4.5J		J	UG/KG	
				ENDOSULFAN II	10	3.9J		J	UG/KG	
				ENDRIN ALDEHYDE	10	8.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.8J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E117

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E117

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E117 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A5X	E117-11T	8081A	SO	ENDOSULFAN II	J	4.2	10	UG/KG
				GAMMA-CHLORDANE	J	3.3	5.1	UG/KG
B5X	E117-13T			BETA-BHC	J	3.7	5.1	UG/KG
				ENDRIN ALDEHYDE	J	9.2	10	UG/KG
				GAMMA-CHLORDANE	J	4.4	5.1	UG/KG
C5X	E117-05T			DELTA-BHC	J	3.6	5.1	UG/KG
				ENDRIN ALDEHYDE	J	7.8	10	UG/KG
				GAMMA-CHLORDANE	J	3.0	5.1	UG/KG
D5X	E117-03T			4,4'-DDD	J	5.4	10	UG/KG
				ENDRIN ALDEHYDE	J	7.1	10	UG/KG
				GAMMA-CHLORDANE	J	2.7	5.1	UG/KG
E5X	E117-07T			DELTA-BHC	J	3.9	5.1	UG/KG
				ENDRIN ALDEHYDE	J	7.3	10	UG/KG
				GAMMA-CHLORDANE	J	3.0	5.1	UG/KG
F5X	E117-09T			DIELDRIN	J	3.9	10	UG/KG
				ENDOSULFAN II	J	4.9	10	UG/KG
				ENDRIN ALDEHYDE	J	9.9	10	UG/KG
G5X	E117-19T			DIELDRIN	J	3.9	10	UG/KG
				ENDOSULFAN II	J	4.9	10	UG/KG
H5X	E117-01T			ENDOSULFAN II	J	3.8	10	UG/KG
				ENDRIN ALDEHYDE	J	9.4	10	UG/KG
I5X	E117-15T			DELTA-BHC	J	3.9	5.1	UG/KG
				ENDOSULFAN II	J	4.0	10	UG/KG
				ENDRIN ALDEHYDE	J	8.7	10	UG/KG
J5X	E117-17T			DELTA-BHC	J	4.5	5.1	UG/KG
				ENDOSULFAN II	J	3.9	10	UG/KG
				ENDRIN ALDEHYDE	J	8.6	10	UG/KG
				GAMMA-CHLORDANE	J	4.8	5.1	UG/KG

LDC #: 20914J3a
SDG #: 09E117
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 6/9/09
Page: 1 of 1
Reviewer: ajr
2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/7/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	NA	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	NA	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	H5X	11	F5XMS	21		31	
2	D5X	12	F5XMSD	22		32	
3	C5X	13	MBLK1S	23		33	
4	E5X	14		24		34	
5	F5X	15		25		35	
6	A5X	16		26		36	
7	B5X	17		27		37	
8	I5X	18		28		38	
9	J5X	19		29		39	
10	G5X	20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914J3a
SDG #: See w

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? __%D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0%~~ 20.0?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20.0)	RT (limit)	Associated Samples	Qualifications
	5/11/09	SZ11037B	RTX-CL/Post III	Z	21	( )	Blk	Y/UJ/D
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
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						( )		
						( )		
						( )		
						( )		

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-May-2009	A4XMS	E130-01M	MS	3550B	8081A	3
11-May-2009	A4XMSD	E130-01S	MSD	3550B	8081A	3
11-May-2009	A4X	E130-01T	N	3550B	8081A	4
11-May-2009	B4X	E130-03T	N	3550B	8081A	3
11-May-2009	C4X	E130-05T	N	3550B	8081A	3
11-May-2009	D4X	E130-07T	N	3550B	8081A	3
11-May-2009	E4X	E130-09T	N	3550B	8081A	3
11-May-2009	F4X	E130-11T	N	3550B	8081A	3
11-May-2009	G4XMS	E130-13M	MS	3550B	8081A	3
11-May-2009	G4XMSD	E130-13S	MSD	3550B	8081A	3
11-May-2009	G4X	E130-13T	N	3550B	8081A	3
11-May-2009	H4X	E130-15T	N	3550B	8081A	3
11-May-2009	I4X	E130-17T	N	3550B	8081A	4
11-May-2009	J4X	E130-19T	N	3550B	8081A	3
11-May-2009	A3X	E130-21T	N	3550B	8081A	4
11-May-2009	B3X	E130-23T	N	3550B	8081A	3
11-May-2009	C3X	E130-25T	N	3550B	8081A	3
11-May-2009	D3X	E130-27T	N	3550B	8081A	3
11-May-2009	E3X	E130-29T	N	3550B	8081A	3
11-May-2009	F3X	E130-31T	N	3550B	8081A	3
11-May-2009	G3X	E130-33T	N	3550B	8081A	3
11-May-2009	H3X	E130-35T	N	3550B	8081A	3
11-May-2009	I3X	E130-37T	N	3550B	8081A	3
11-May-2009	J3X	E130-39T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E130										
8081A	A3X	SO	N							
				ALPHA-CHLORDANE	5.1	13		J	UG/KG	
				DIELDRIN	10	5.7J		J	UG/KG	
				ENDOSULFAN II	10	8.1J		J	UG/KG	
				ENDRIN ALDEHYDE	10	19		J	UG/KG	
8081A	A4X	SO	N							
				ALPHA-CHLORDANE	5.1	9.4		J	UG/KG	
				DIELDRIN	10	4.0J		J	UG/KG	
				ENDOSULFAN II	10	6.7J		J	UG/KG	
				ENDRIN ALDEHYDE	10	13		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.6J		J	UG/KG	
8081A	B3X	SO	N							
				DELTA-BHC	5.1	4.3J		J	UG/KG	
				DIELDRIN	10	4.0J		J	UG/KG	
				ENDOSULFAN II	10	6.9J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.2J		J	UG/KG	
8081A	B4X	SO	N							
				DELTA-BHC	5.1	2.2J		J	UG/KG	
				ENDOSULFAN II	10	5.4J		J	UG/KG	
8081A	C3X	SO	N							
				DELTA-BHC	5.1	2.6J		J	UG/KG	
				DIELDRIN	10	4.6J		J	UG/KG	
				ENDOSULFAN II	10	5.7J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.8J		J	UG/KG	
8081A	C4X	SO	N							
				DELTA-BHC	5.1	3.5J		J	UG/KG	
				ENDOSULFAN II	10	4.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.1J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E130										
8081A	D3X	SO	N							
				DELTA-BHC	5.1	3.1J		J	UG/KG	
				DIELDRIN	10	3.4J		J	UG/KG	
				ENDOSULFAN II	10	5.9J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.1J		J	UG/KG	
8081A	D4X	SO	N							
				DELTA-BHC	5.1	4.5J		J	UG/KG	
				ENDOSULFAN II	10	4.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.7J		J	UG/KG	
8081A	E3X	SO	N							
				DIELDRIN	10	5.0J		J	UG/KG	
				ENDOSULFAN II	10	6.2J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.8J		J	UG/KG	
8081A	E4X	SO	N							
				DELTA-BHC	5.1	4.2J		J	UG/KG	
				DIELDRIN	10	3.3J		J	UG/KG	
				ENDOSULFAN II	10	5.0J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.0J		J	UG/KG	
8081A	F3X	SO	N							
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				ENDOSULFAN II	10	6.8J		J	UG/KG	
				ENDOSULFAN SULFATE	10	9.3J		J	UG/KG	
8081A	F4X	SO	N							
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				ENDOSULFAN II	10	5.1J		J	UG/KG	
8081A	G3X	SO	N							
				4,4'-DDD	10	6.6J		J	UG/KG	
				DELTA-BHC	5.1	4.7J		J	UG/KG	
				DIELDRIN	10	4.2J		J	UG/KG	
				ENDOSULFAN II	10	6.5J		J	UG/KG	
				ENDOSULFAN SULFATE	10	9.7J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E130										
8081A	G4X	SO	N							
				DELTA-BHC	5.1	3.5J		J	UG/KG	
				ENDOSULFAN II	10	4.4J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.8J		J	UG/KG	
8081A	H3X	SO	N							
				4,4'-DDD	10	8.9J		J	UG/KG	
				DIELDRIN	10	4.4J		J	UG/KG	
				ENDOSULFAN II	10	5.1J		J	UG/KG	
				ENDOSULFAN SULFATE	10	9.2J		J	UG/KG	
8081A	H4X	SO	N							
				DELTA-BHC	5.1	4.9J		J	UG/KG	
				ENDOSULFAN II	10	4.7J		J	UG/KG	
8081A	I3X	SO	N							
				4,4'-DDD	10	6.8J		J	UG/KG	
				DIELDRIN	10	3.3J		J	UG/KG	
				ENDOSULFAN II	10	5.6J		J	UG/KG	
8081A	I4X	SO	N							
				ALPHA-CHLORDANE	5.1	17		J	UG/KG	
				DELTA-BHC	5.1	3.3J		J	UG/KG	
				ENDOSULFAN II	10	4.4J		J	UG/KG	
				ENDRIN ALDEHYDE	10	11		J	UG/KG	
8081A	J3X	SO	N							
				4,4'-DDD	10	4.6J		J	UG/KG	
				DELTA-BHC	5.1	4.3J		J	UG/KG	
				DIELDRIN	10	4.1J		J	UG/KG	
				ENDOSULFAN II	10	7.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.3J		J	UG/KG	
8081A	J4X	SO	N							
				DELTA-BHC	5.2	2.8J		J	UG/KG	
				ENDOSULFAN II	10	4.7J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	4.3J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E130

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E130

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E130 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A3X	E130-21T	8081A	SO	DIELDRIN	J	5.7	10	UG/KG
				ENDOSULFAN II	J	8.1	10	UG/KG
A4X	E130-01T			DIELDRIN	J	4.0	10	UG/KG
				ENDOSULFAN II	J	6.7	10	UG/KG
				GAMMA-CHLORDANE	J	3.6	5.1	UG/KG
B3X	E130-23T			DELTA-BHC	J	4.3	5.1	UG/KG
				DIELDRIN	J	4.0	10	UG/KG
				ENDOSULFAN II	J	6.9	10	UG/KG
				GAMMA-CHLORDANE	J	4.2	5.1	UG/KG
B4X	E130-03T			DELTA-BHC	J	2.2	5.1	UG/KG
				ENDOSULFAN II	J	5.4	10	UG/KG
C3X	E130-25T			DELTA-BHC	J	2.6	5.1	UG/KG
				DIELDRIN	J	4.6	10	UG/KG
				ENDOSULFAN II	J	5.7	10	UG/KG
				GAMMA-CHLORDANE	J	3.8	5.1	UG/KG
C4X	E130-05T			DELTA-BHC	J	3.5	5.1	UG/KG
				ENDOSULFAN II	J	4.8	10	UG/KG
				GAMMA-CHLORDANE	J	3.1	5.1	UG/KG
D3X	E130-27T			DELTA-BHC	J	3.1	5.1	UG/KG
				DIELDRIN	J	3.4	10	UG/KG
				ENDOSULFAN II	J	5.9	10	UG/KG
				GAMMA-CHLORDANE	J	3.1	5.1	UG/KG
D4X	E130-07T			DELTA-BHC	J	4.5	5.1	UG/KG
				ENDOSULFAN II	J	4.4	10	UG/KG
				GAMMA-CHLORDANE	J	2.7	5.1	UG/KG
E3X	E130-29T			DIELDRIN	J	5.0	10	UG/KG
				ENDOSULFAN II	J	6.2	10	UG/KG
				GAMMA-CHLORDANE	J	4.8	5.1	UG/KG
E4X	E130-09T			DELTA-BHC	J	4.2	5.1	UG/KG
				DIELDRIN	J	3.3	10	UG/KG
				ENDOSULFAN II	J	5.0	10	UG/KG
				GAMMA-CHLORDANE	J	4.0	5.1	UG/KG
F3X	E130-31T			DELTA-BHC	J	3.9	5.1	UG/KG
				ENDOSULFAN II	J	6.8	10	UG/KG
				ENDOSULFAN SULFATE	J	9.3	10	UG/KG
F4X	E130-11T			DELTA-BHC	J	3.9	5.1	UG/KG

Project Number and Name: **4-12821 - AG FIELDS A6 PHASE BI**

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E130 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
F4X	E130-11T	8081A	SO	ENDOSULFAN II	J	5.1	10	UG/KG
G3X	E130-33T			4,4'-DDD	J	6.6	10	UG/KG
				DELTA-BHC	J	4.7	5.1	UG/KG
				DIELDRIN	J	4.2	10	UG/KG
				ENDOSULFAN II	J	6.5	10	UG/KG
				ENDOSULFAN SULFATE	J	9.7	10	UG/KG
G4X	E130-13T			DELTA-BHC	J	3.5	5.1	UG/KG
				ENDOSULFAN II	J	4.4	10	UG/KG
				ENDRIN ALDEHYDE	J	9.8	10	UG/KG
H3X	E130-35T			4,4'-DDD	J	8.9	10	UG/KG
				DIELDRIN	J	4.4	10	UG/KG
				ENDOSULFAN II	J	5.1	10	UG/KG
				ENDOSULFAN SULFATE	J	9.2	10	UG/KG
H4X	E130-15T			DELTA-BHC	J	4.9	5.1	UG/KG
				ENDOSULFAN II	J	4.7	10	UG/KG
I3X	E130-37T			4,4'-DDD	J	6.8	10	UG/KG
				DIELDRIN	J	3.3	10	UG/KG
				ENDOSULFAN II	J	5.6	10	UG/KG
I4X	E130-17T			DELTA-BHC	J	3.3	5.1	UG/KG
				ENDOSULFAN II	J	4.4	10	UG/KG
J3X	E130-39T			4,4'-DDD	J	4.6	10	UG/KG
				DELTA-BHC	J	4.3	5.1	UG/KG
				DIELDRIN	J	4.1	10	UG/KG
				ENDOSULFAN II	J	7.6	10	UG/KG
				GAMMA-CHLORDANE	J	4.3	5.1	UG/KG
J4X	E130-19T			DELTA-BHC	J	2.8	5.2	UG/KG
				ENDOSULFAN II	J	4.7	10	UG/KG
				GAMMA-CHLORDANE	J	4.3	5.2	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E130 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
A3X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
A3X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
A4X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
A4X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
I4X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
I4X	8081A	DELTA-BHC	319-86-8	J		Professional Judgement
I4X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement

LDC #: 20914K3a

SDG #: 09E130

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR IV

Date: 6/9/09

Page: 1 of 1

Reviewer: ajr

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/11/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	A	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOILS

1	A4X**	11	A3X**	21	A4XMS	31	
2	B4X	12	B3X	22	A4XMSD	32	
3	C4X	13	C3X	23	G4XMS	33	
4	D4X	14	D3X	24	G4XMSD	34	
5	E4X	15	E3X	25	MBLK1S	35	
6	F4X	16	F3X	26		36	
7	G4X	17	G3X	27		37	
8	H4X	18	H3X	28		38	
9	I4X**	19	I3X	29		39	
10	J4X	20	J3X	30		40	

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCB Camp Pendleton, Ag Fields A6 Phase BI

Collection Date: May 11, 2009

LDC Report Date: June 16, 2009

Matrix: Soil

Parameters: Chlorinated Pesticides

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 09E130

Sample Identification

A4X
I4X
A3X

Introduction

This data review covers 3 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E130	All compounds reported below the RL.	J (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
A4X	alpha-Chlordane Endrin aldehyde	83 89	J (all detects) J (all detects)	A
I4X	delta-BHC alpha-Chlordane Endrin aldehyde	44 113 88	J (all detects) J (all detects) J (all detects)	A
A3X	alpha-Chlordane Endrin aldehyde	115 77	J (all detects) J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E130

SDG	Sample	Compound	Flag	A or P	Reason
09E130	A4X I4X A3X	All compounds reported below the RL	J (all detects)	A	Compound quantitation and CRQLs
09E130	A4X A3X	alpha-Chlordane Endrin aldehyde	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E130	I4X	delta-BHC alpha-Chlordane Endrin aldehyde	J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E130

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E130

No Sample Data Qualified in this SDG

LDC #: 20914K3a
SDG #: 09E130
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR/IV

Date: 6/12/09
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/11/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	A	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	A4X**	11	A3X**	~~21~~	~~A4XMS~~	31	MBLK 13
~~2~~	~~B4X~~	~~12~~	~~B3X~~	22	A4XMSD	32	
3	C4X	13	C3X	23	G4XMS	33	
4	D4X	14	D3X	~~24~~	~~G4XMSD~~	34	
5	E4X	15	E3X	25		35	
6	F4X	16	F3X	26		36	
7	G4X	17	G3X	27		37	
~~8~~	~~H4X~~	18	H3X	28		38	
9	I4X**	19	I3X	29		39	
10	~~J4X~~	~~20~~	~~J3X~~	30		40	

LDC #: 20914K5a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recoveries ~~85-115%~~ 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	✓			
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	✗		✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?	✗		✓	

LDC #: 20914 K39
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914K3a
SDG #: See cover

METHOD: ✓ GC ___ HPLC

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y N N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings below.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	S	1	83	J dets/A
	R	↓	89	↓
	C	9	44	J dets/A
	S	↓	113	↓
	R	↓	88	↓
	S	11	115	J dets/A
	R	↓	77	↓

Comments: See sample calculation verification worksheet for recalculations

LDC #: 20914 K39
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: dc
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	1Cal	5/1/09	C	14147	14147	13340.2	13340.2	16.6	16.6
	RTX CLP		O	10696	10696	10273.3	10273.3	5.4	5.4
2	1 Cal	↓	C	9590	9590	~~102~~ 9172.2	9172.2	11.9	11.9
	RTX CLP II		O	6949	6949	6789.0	6789.0	7.5	7.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914 K3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE12003A	5/12/09	C	20.0	21.53	21.53	8	8
	RTX CLP		O	40.0	37.59	37.59	6	6
2	SE12003B		C	20.0	20.42	20.42	2	2
	RTX CLP II		O	40.0	36.14	36.14	10	10
3	SE12016A		C	20.0	22.87	22.87	14	14
	RTX CLP		O	40.0	37.31	37.31	7	7
4	SE12016B		C	20.0	22.12	22.12	11	11
	RTX CLP II		O	40.0	35.78	35.78	11	11

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914K3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 9

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	CLP-RTX	40.0	~~36.3~~ 36.3	91	91	
Tetrachloro-m-xylene	↓	↓				
Decachlorobiphenyl	↓	↓	48.0	120	120	
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 20914K3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike percent recovery; MSD = Matrix spike duplicate percent recovery

MS/MSD samples: 21/22

Compound	Spike Added (µg/kg)		Sample Concentration (µg/kg)	Spiked Sample Concentration (µg/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
~~gamma~~ delta-BHC	13.7	13.7	ND	17.4	15.8	127	127	115	115	10	10
4,4'-DDT	↓	↓	54	75.2	73.3	155	155	141	141	3	3

Comments: Refer ot Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

MSDCLC.3S

LDC #: 20914K39
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery; LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS

Compound	Spike Added (µg/kg)		Spiked Sample Concentration (µg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma~~ delta-BHC	13.3	NA	16.4	NA	123	123				
4,4'-DDT	↓	↓	13.8	↓	104	104				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914K3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 9 0 :

$$\text{Conc.} = \frac{(244920 \times 10 \times 2.5)}{(6789.0 \times 30.02 \times 0.974)}$$

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.SS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-May-2009	A3Y	E130-22	N	3550B	8081A	3
11-May-2009	A3Y	E130-22T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E130A										
8081A	A3Y	SO	N							
				4,4'-DDD	4.1	3.2J		J	UG/KG	
				ENDOSULFAN I	2.1	2.1U		UJ	UG/KG	
				METHOXYCHLOR	21	5.5J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09E130A

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09E130A	A3Y	8081A	959988		J	ENDOSULFAN I	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E130A

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E130A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A3Y	E130-22	8081A	SO	4,4'-DDD	J	3.2	4.1	UG/KG
	E130-22T			ENDOSULFAN II	J	7.6	21	UG/KG
				ENDRIN ALDEHYDE	J	18	21	UG/KG
				GAMMA-CHLORDANE	J	6.1	10	UG/KG
	E130-22			METHOXYCHLOR	J	5.5	21	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E130A **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
A3Y	8081A	4,4'-DDT	50-29-3	J		Professional Judgement

LDC #: 20914L3a

SDG #: 09E130A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 6/9/09

Page: 1 of 1

Reviewer: an

2nd Reviewer: Q

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/11/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	~~N~~SW	
XIII.	Overall assessment of data	~~N~~SW	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A3Y	11	MBLK1S	21		31	
2	A3YDL	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914L3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤15.0%?
Level IV Only
Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ 15.0)	RT (limit)	Associated Samples	Qualifications
	5/19/09	SE18061A	RTX-CLPEST	H	24.71	( )	ALL+BLK	J/UJ/A
						( )		
						( )		
						( )		
						( )		
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						( )		

LDC #: 20914L3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only
Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Sample ID ~~Compound Name~~	Finding	Associated Samples	Qualifications
	~~0~~ 1	0 > Cal Range	1	J detsl A

Comments: See sample calculation verification worksheet for recalculations

LDC #: 20914L3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC (EPA ~~SW 846~~ 8081 / 8082)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Finding	Associated Samples	Qualifications
		1	O	1	R / A
					↓
		2	All except O	2	↓

Comments: _____

V:\Validation Worksheets\GC\OVR.GC

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
11-May-2009	A2X	E139-01T	N	3550B	8081A	3
11-May-2009	B2XMS	E139-03M	MS	3550B	8081A	3
11-May-2009	B2XMSD	E139-03S	MSD	3550B	8081A	3
11-May-2009	B2X	E139-03T	N	3550B	8081A	3
11-May-2009	C2X	E139-05T	N	3550B	8081A	3
11-May-2009	D2XMS	E139-07M	MS	3550B	8081A	3
11-May-2009	D2XMSD	E139-07S	MSD	3550B	8081A	3
11-May-2009	D2X	E139-07T	N	3550B	8081A	3
12-May-2009	E2X	E139-09T	N	3550B	8081A	3
12-May-2009	F2X	E139-11T	N	3550B	8081A	4
12-May-2009	G2X	E139-13T	N	3550B	8081A	3
12-May-2009	H2X	E139-15T	N	3550B	8081A	3
12-May-2009	I2X	E139-17T	N	3550B	8081A	3
12-May-2009	J2XMS	E139-19M	MS	3550B	8081A	3
12-May-2009	J2XMSD	E139-19S	MSD	3550B	8081A	3
12-May-2009	J2X	E139-19T	N	3550B	8081A	3
12-May-2009	A1X	E139-21T	N	3550B	8081A	3
12-May-2009	B1X	E139-23T	N	3550B	8081A	3
12-May-2009	C1X	E139-25T	N	3550B	8081A	3
12-May-2009	D1X	E139-27T	N	3550B	8081A	3
12-May-2009	E1X	E139-29T	N	3550B	8081A	4
12-May-2009	F1X	E139-31T	N	3550B	8081A	3
12-May-2009	G1X	E139-33T	N	3550B	8081A	3
12-May-2009	H1X	E139-35T	N	3550B	8081A	3
12-May-2009	I1X	E139-37T	N	3550B	8081A	3
12-May-2009	J1X	E139-39T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-May-2009	A12X	E139-41I	N	3550B	8081A	3
12-May-2009	A11X	E139-43I	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139										
8081A	A11X	SO	N							
				4,4'-DDD	41	29J		J	UG/KG	
				ENDOSULFAN II	41	29J		J	UG/KG	
8081A	A12X	SO	N							
				BETA-BHC	51	28J		J	UG/KG	
				DELTA-BHC	51	23J		J	UG/KG	
				ENDOSULFAN II	100	51J		J	UG/KG	
				ENDRIN ALDEHYDE	100	84J		J	UG/KG	
8081A	A1X	SO	N							
				4,4'-DDD	10	8.7J		J	UG/KG	
				DIELDRIN	10	6.1J		J	UG/KG	
				ENDOSULFAN II	10	9.1J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	4.3J		J	UG/KG	
8081A	A2X	SO	N							
				DIELDRIN	10	4.1J		J	UG/KG	
				ENDOSULFAN II	10	6.2J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.4J		J	UG/KG	
8081A	B1X	SO	N							
				4,4'-DDD	10	8.7J		J	UG/KG	
				DELTA-BHC	5.1	3.2J		J	UG/KG	
				DIELDRIN	10	4.1J		J	UG/KG	
				ENDOSULFAN II	10	8.9J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.4J		J	UG/KG	
8081A	B2X	SO	N							
				DELTA-BHC	5.1	3.8J		J	UG/KG	
				ENDOSULFAN II	10	6.5J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.6J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139										
8081A	C1X	SO	N							
				4,4'-DDD	10	6.6J		J	UG/KG	
				DELTA-BHC	5.1	4.2J		J	UG/KG	
				DIELDRIN	10	4.5J		J	UG/KG	
				ENDOSULFAN II	10	9.3J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.4J		J	UG/KG	
8081A	C2X	SO	N							
				ALDRIN	5.1	5.1U		UJ	UG/KG	
				ALPHA-BHC	5.1	5.1U		UJ	UG/KG	
				DELTA-BHC	5.1	3.1J		J	UG/KG	
				ENDOSULFAN II	10	5.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.4J		J	UG/KG	
8081A	D1X	SO	N							
				4,4'-DDD	10	8.9J		J	UG/KG	
				DELTA-BHC	5.1	2.7J		J	UG/KG	
				DIELDRIN	10	4.4J		J	UG/KG	
8081A	D2X	SO	N							
				DELTA-BHC	5.1	3.7J		J	UG/KG	
				ENDOSULFAN II	10	7.4J		J	UG/KG	
8081A	E1X	SO	N							
				4,4'-DDD	10	10J		J	UG/KG	
				ALDRIN	5.1	44		J	UG/KG	
				ALPHA-CHLORDANE	5.1	21		J	UG/KG	
				DIELDRIN	10	5.3J		J	UG/KG	
				ENDRIN ALDEHYDE	10	30		J	UG/KG	
8081A	E2X	SO	N							
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				DIELDRIN	10	4.3J		J	UG/KG	
				ENDOSULFAN II	10	7.5J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139										
8081A	F1X	SO	N							
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				DIELDRIN	10	5.5J		J	UG/KG	
8081A	F2X	SO	N							
				ALPHA-CHLORDANE	5.1	19		J	UG/KG	
				DELTA-BHC	5.1	3.6J		J	UG/KG	
				DIELDRIN	10	4.2J		J	UG/KG	
				ENDOSULFAN II	10	7.2J		J	UG/KG	
				ENDRIN ALDEHYDE	10	17		J	UG/KG	
8081A	G1X	SO	N							
				DELTA-BHC	5.1	3.1J		J	UG/KG	
				DIELDRIN	10	6.6J		J	UG/KG	
8081A	G2X	SO	N							
				DELTA-BHC	5.1	3.5J		J	UG/KG	
				DIELDRIN	10	4.6J		J	UG/KG	
				ENDOSULFAN II	10	8.3J		J	UG/KG	
8081A	H1X	SO	N							
				DELTA-BHC	5.1	3.7J		J	UG/KG	
				DIELDRIN	10	9.3J		J	UG/KG	
8081A	H2X	SO	N							
				DELTA-BHC	5.1	3.6J		J	UG/KG	
				DIELDRIN	10	5.0J		J	UG/KG	
				ENDOSULFAN II	10	8.1J		J	UG/KG	
8081A	I1X	SO	N							
				4,4'-DDD	10	8.5J		J	UG/KG	
				DELTA-BHC	5.1	3.7J		J	UG/KG	
				DIELDRIN	10	7.0J		J	UG/KG	
8081A	I2X	SO	N							
				DELTA-BHC	5.1	3.9J		J	UG/KG	
				DIELDRIN	10	4.5J		J	UG/KG	
				ENDOSULFAN II	10	7.1J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139										
8081A	J1X	SO	N							
				4,4'-DDD	10	5.2J		J	UG/KG	
				ALDRIN	5.1	5.1U		UJ	UG/KG	
				ALPHA-BHC	5.1	5.1U		UJ	UG/KG	
				DELTA-BHC	5.1	4.1J		J	UG/KG	
				ENDOSULFAN II	10	7.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.9J		J	UG/KG	
8081A	J2X	SO	N							
				DELTA-BHC	5.1	3.8J		J	UG/KG	
				DIELDRIN	10	4.0J		J	UG/KG	
				ENDOSULFAN II	10	5.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.3J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight
Reason for Qualified Results
SDG Nos. : 09E139

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09E139	C2X	8081A	309002		J	ALDRIN	Continuing calibration percent difference
09E139	C2X	8081A	319846		J	ALPHA-BHC	Continuing calibration percent difference
09E139	J1X	8081A	309002		J	ALDRIN	Continuing calibration percent difference
09E139	J1X	8081A	319846		J	ALPHA-BHC	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E139

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E139 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A11X	E139-43I	8081A	SO	4,4'-DDD	J	29	41	UG/KG
				ENDOSULFAN II	J	29	41	UG/KG
A12X	E139-41I			BETA-BHC	J	28	51	UG/KG
				DELTA-BHC	J	23	51	UG/KG
				ENDOSULFAN II	J	51	100	UG/KG
				ENDRIN ALDEHYDE	J	84	100	UG/KG
A1X	E139-21T			4,4'-DDD	J	8.7	10	UG/KG
				DIELDRIN	J	6.1	10	UG/KG
				ENDOSULFAN II	J	9.1	10	UG/KG
				GAMMA-CHLORDANE	J	4.3	5.2	UG/KG
A2X	E139-01T			DIELDRIN	J	4.1	10	UG/KG
				ENDOSULFAN II	J	6.2	10	UG/KG
				GAMMA-CHLORDANE	J	3.4	5.1	UG/KG
B1X	E139-23T			4,4'-DDD	J	8.7	10	UG/KG
				DELTA-BHC	J	3.2	5.1	UG/KG
				DIELDRIN	J	4.1	10	UG/KG
				ENDOSULFAN II	J	8.9	10	UG/KG
				GAMMA-CHLORDANE	J	4.4	5.1	UG/KG
B2X	E139-03T			DELTA-BHC	J	3.8	5.1	UG/KG
				ENDOSULFAN II	J	6.5	10	UG/KG
				GAMMA-CHLORDANE	J	3.6	5.1	UG/KG
C1X	E139-25T			4,4'-DDD	J	6.6	10	UG/KG
				DELTA-BHC	J	4.2	5.1	UG/KG
				DIELDRIN	J	4.5	10	UG/KG
				ENDOSULFAN II	J	9.3	10	UG/KG
				GAMMA-CHLORDANE	J	4.4	5.1	UG/KG
C2X	E139-05T			DELTA-BHC	J	3.1	5.1	UG/KG
				ENDOSULFAN II	J	5.6	10	UG/KG
				GAMMA-CHLORDANE	J	2.4	5.1	UG/KG
D1X	E139-27T			4,4'-DDD	J	8.9	10	UG/KG
				DELTA-BHC	J	2.7	5.1	UG/KG
				DIELDRIN	J	4.4	10	UG/KG
D2X	E139-07T			DELTA-BHC	J	3.7	5.1	UG/KG
				ENDOSULFAN II	J	7.4	10	UG/KG
E1X	E139-29T			DIELDRIN	J	5.3	10	UG/KG
E2X	E139-09T			DELTA-BHC	J	3.9	5.1	UG/KG

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E139 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
E2X	E139-09T	8081A	SO	DIELDRIN	J	4.3	10	UG/KG
				ENDOSULFAN II	J	7.5	10	UG/KG
F1X	E139-31T			DELTA-BHC	J	3.9	5.1	UG/KG
				DIELDRIN	J	5.5	10	UG/KG
F2X	E139-11T			DELTA-BHC	J	3.6	5.1	UG/KG
				DIELDRIN	J	4.2	10	UG/KG
				ENDOSULFAN II	J	7.2	10	UG/KG
G1X	E139-33T			DELTA-BHC	J	3.1	5.1	UG/KG
				DIELDRIN	J	6.6	10	UG/KG
G2X	E139-13T			DELTA-BHC	J	3.5	5.1	UG/KG
				DIELDRIN	J	4.6	10	UG/KG
				ENDOSULFAN II	J	8.3	10	UG/KG
H1X	E139-35T			DELTA-BHC	J	3.7	5.1	UG/KG
				DIELDRIN	J	9.3	10	UG/KG
H2X	E139-15T			DELTA-BHC	J	3.6	5.1	UG/KG
				DIELDRIN	J	5.0	10	UG/KG
				ENDOSULFAN II	J	8.1	10	UG/KG
I1X	E139-37T			4,4'-DDD	J	8.5	10	UG/KG
				DELTA-BHC	J	3.7	5.1	UG/KG
				DIELDRIN	J	7.0	10	UG/KG
I2X	E139-17T			DELTA-BHC	J	3.9	5.1	UG/KG
				DIELDRIN	J	4.5	10	UG/KG
				ENDOSULFAN II	J	7.1	10	UG/KG
J1X	E139-39T			4,4'-DDD	J	5.2	10	UG/KG
				DELTA-BHC	J	4.1	5.1	UG/KG
				ENDOSULFAN II	J	7.8	10	UG/KG
				GAMMA-CHLORDANE	J	2.9	5.1	UG/KG
J2X	E139-19T			DELTA-BHC	J	3.8	5.1	UG/KG
				DIELDRIN	J	4.0	10	UG/KG
				ENDOSULFAN II	J	5.4	10	UG/KG
				GAMMA-CHLORDANE	J	3.3	5.1	UG/KG

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09E139 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
E1X	8081A	4,4'-DDD	72-54-8	J		Professional Judgement
E1X	8081A	ALDRIN	309-00-2	J		Professional Judgement
E1X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
E1X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement
F2X	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
F2X	8081A	ENDRIN ALDEHYDE	7421-93-4	J		Professional Judgement

LDC #: 20914M3a

SDG #: 09E139

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR/IV

Date: 6/9/09

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/11-12/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	N	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOIL

1 1	A2X	11 1	A1X	21 2	A12X	31 1	MBLK1S
2 1	B2X	12 1	B1X	22 2	A11X	32 2	MBLK2S
3 1	C2X	13 1	C1X	23	B2XMS	33	
4 1	D2X	14 1	D1X	24	B2XMSD	34	
5 1	E2X	15 1	E1X**	25	D2XMS	35	
6 1	F2X**	16 1	F1X	26	D2XMSD	36	
7 1	G2X	17 1	G1X	27	J2XMS	37	
8 1	H2X	18 1	H1X	28	J2XMSD	38	
9 1	I2X	19 1	I1X	29		39	
10 1	J2X	20 1	J1X	30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914M3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ap
2nd Reviewer: 9

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~ 20.0%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD 20 (Limit ≤ ~~15.0~~)	RT (limit)	Associated Samples	Qualifications
	5/15/09	SE13121A	RTX-CLPEST	A	21	( )	3, ~~10~~ 20	J/UJ/A
				F	21	( )	↓	↓
						( )		
						( )		
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Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCB Camp Pendleton, Ag Fields A6 Phase BI

Collection Date: May 11 through May 12, 2009

LDC Report Date: June 17, 2009

Matrix: Soil

Parameters: Chlorinated Pesticides

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 09E139

Sample Identification

F2X
E1X

Introduction

This data review covers 2 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E139	All compounds reported below the RL	J (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
F2X	alpha-Chlordane Endrin aldehyde	96 104	J (all detects) J (all detects)	A
E1X	Aldrin alpha-Chlordane 4,4'-DDD Endrin aldehyde	178 111 53 138	J (all detects) J (all detects) J (all detects) J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E139

SDG	Sample	Compound	Flag	A or P	Reason
09E139	F2X E1X	All compounds reported below the RL.	J (all detects)	A	Compound quantitation and CRQLs
09E139	F2X	alpha-Chlordane Endrin aldehyde	J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09E139	E1X	Aldrin alpha-Chlordane 4,4'-DDD Endrin aldehyde	J (all detects) J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E139

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E139

No Sample Data Qualified in this SDG

LDC #: 20914M3a

SDG #: 09E139

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR IV

Date: 6/12/09

Page: 1 of 1

Reviewer: d

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/11/09 - 5/12/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	ICV/CCV < 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	A	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS/~~LCSD~~
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	A2X	~~11~~	~~A1X~~	21 2	A12X	31	MBLK 1S
2	B2X	12	B1X	22 2	A11X	32 2	MBLK 2S
3	C2X	13	C1X	23	B2XMS	33	
4	D2X	~~14~~	~~D1X~~	24	B2XMSD	34	
~~5~~	~~E2X~~	15	E1X**	25	D2XMS	35	
6	F2X**	~~16~~	~~F1X~~	26	D2XMSD	36	
7	G2X	17	G1X	27	J2XMS	37	
8	H2X	18	H1X	~~28~~	~~J2XMSD~~	38	
9	I2X	19	I1X	29		39	
10	~~J2X~~	~~20~~	~~J1X~~	30		40	

LDC #: 20914M3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recoveries ~~85-115~~ 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?	~~✓~~		✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 20914M3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: a
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914M3a
SDG #: See cover

METHOD: ✓ GC __ HPLC

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: dl
2nd Reviewer: ✓

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y N N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings below.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	S	6	96	J det/A
	R	↓	104	↓
	F	15	178	J det/A
	~~S~~	~~179~~ 15	~~179~~	
	S		111	
	M		53	
	R	↓	138	↓

Comments: See sample calculation verification worksheet for recalculations

LDC #: 20914 M3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: dc ~~JVG~~
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	1Cal RTX CLP	5/1/09	C	14147	14147	13340.2	13340.2	16.6	16.6
			O	10696	10696	10273.3	10273.3	5.4	5.4
2	1 Cal RTX CLP II	↓	C	9590	9590	9172.2 ~~102~~	9172.2	11.9	11.9
			O	6949	6949	6789.0	6789.0	7.5	7.5
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914M3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: dh
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC_____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE 13062A ~~GFE031~~	5/14/09	C	20.0	22.38	22.38	12	12
	RTX CLP		O	40.0	37.01	37.01	7	7
2	SE13062B		C	20.0	21.23	21.23	6	6
	RTX CLP II		O	40.0	37.10	37.01	7	7
3	SE13095A		C	20.0	22.55	22.55	13	13
	RTX CLP		O	40.0	38.76	38.76	3	3
4	SE13095B		C	20.0	21.74	21.74	9	9
	RTX CLP II		O	40.0	38.47	38.47	4	4

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914M3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE13108A		C	20.0	23.15	23.15	16	16
	RTX CLP		O	40.0	38.49	38.49	4	4
2	SE13108B		C	20.0	22.07	22.07	10	10
	RTX CLP II		O	40.0	37.46	37.46	6	6
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914 M39
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 15

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX-CLP II	40.0	38.0	95	95	0
Tetrachloro-m-xylene		↓				
Decachlorobiphenyl	RTX-CLP	↓	48.9	122	122	0
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID: _____

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes: _____

LDC #: 20914M3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery; LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS/LS

Compound	Spike Added (ug/kg)		Spiked Sample Concentration (ug/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma-~~delta BHC	13.3	NA	15.6	NA	117	117				
4,4'-DDT	↓	↓	13.5	↓	101	102				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914 M3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 2 of 1
Reviewer: a
2nd reviewer:

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 15 C :

$$\text{Conc.} = \frac{(6.0343 \times 10 \times 2.5)}{(9172.2 \times 30.03 \times 0.975)}$$

$= 5.62\ \mu g/kg$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.SS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-May-2009	E2Y	E139-10T	N	3550B	8081A	3
12-May-2009	F2Y	E139-12T	N	3550B	8081A	3
12-May-2009	G2Y	E139-14T	N	3550B	8081A	3
12-May-2009	H2Y	E139-16T	N	3550B	8081A	3
12-May-2009	I2Y	E139-18T	N	3550B	8081A	3
12-May-2009	A1Y	E139-22T	N	3550B	8081A	3
12-May-2009	B1Y	E139-24T	N	3550B	8081A	3
12-May-2009	C1Y	E139-26T	N	3550B	8081A	3
12-May-2009	D1Y	E139-28T	N	3550B	8081A	3
12-May-2009	E1Y	E139-30T	N	3550B	8081A	3
12-May-2009	F1Y	E139-32T	N	3550B	8081A	3
12-May-2009	G1Y	E139-34T	N	3550B	8081A	3
12-May-2009	H1Y	E139-36T	N	3550B	8081A	3
12-May-2009	I1Y	E139-38T	N	3550B	8081A	3
12-May-2009	A12Y	E139-42I	N	3550B	8081A	3
12-May-2009	A11Y	E139-44T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139A										
8081A	A11Y	SO	N							
				BETA-BHC	5.1	4.7J		J	UG/KG	
				ENDOSULFAN II	10	4.0J		J	UG/KG	
				HEPTACHLOR	5.1	5.1U		UJ	UG/KG	
8081A	A12Y	SO	N							
				BETA-BHC	51	42J		J	UG/KG	
				DELTA-BHC	51	23J		J	UG/KG	
				ENDOSULFAN II	100	83J		J	UG/KG	
				HEPTACHLOR	51	51U		UJ	UG/KG	
8081A	A1Y	SO	N							
				4,4'-DDD	10	5.9J		J	UG/KG	
				DIELDRIN	10	4.8J		J	UG/KG	
				ENDOSULFAN II	10	7.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	3.8J		J	UG/KG	
8081A	B1Y	SO	N							
				DELTA-BHC	5.2	3.5J		J	UG/KG	
				DIELDRIN	10	6.3J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	4.3J		J	UG/KG	
8081A	C1Y	SO	N							
				DELTA-BHC	5.2	3.1J		J	UG/KG	
				DIELDRIN	10	5.4J		J	UG/KG	
				ENDOSULFAN II	10	9.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	3.8J		J	UG/KG	
				HEPTACHLOR	5.2	5.2U		UJ	UG/KG	
8081A	D1Y	SO	N							
				DELTA-BHC	5.2	3.5J		J	UG/KG	
				DIELDRIN	10	6.4J		J	UG/KG	
				ENDOSULFAN II	10	9.6J		J	UG/KG	
				HEPTACHLOR	5.2	5.2U		UJ	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139A										
8081A	E1Y	SO	N							
				DIELDRIN	10	6.0J		J	UG/KG	
				ENDOSULFAN II	10	9.9J		J	UG/KG	
				HEPTACHLOR	5.2	5.2U		UJ	UG/KG	
8081A	E2Y	SO	N							
				DELTA-BHC	5.2	4.5J		J	UG/KG	
				ENDOSULFAN II	10	7.3J		J	UG/KG	
8081A	F1Y	SO	N							
				ENDOSULFAN II	21	12J		J	UG/KG	
				GAMMA-CHLORDANE	10	9.0J		J	UG/KG	
				HEPTACHLOR	10	10U		UJ	UG/KG	
8081A	F2Y	SO	N							
				DELTA-BHC	5.1	2.7J		J	UG/KG	
				DIELDRIN	10	4.5J		J	UG/KG	
				ENDOSULFAN II	10	7.3J		J	UG/KG	
8081A	G1Y	SO	N							
				4,4'-DDD	10	8.0J		J	UG/KG	
				DELTA-BHC	5.2	2.9J		J	UG/KG	
				DIELDRIN	10	8.6J		J	UG/KG	
				HEPTACHLOR	5.2	5.2U		UJ	UG/KG	
				METHOXYCHLOR	52	14J		J	UG/KG	
8081A	G2Y	SO	N							
				DELTA-BHC	5.2	3.9J		J	UG/KG	
				DIELDRIN	10	4.6J		J	UG/KG	
				ENDOSULFAN II	10	8.3J		J	UG/KG	
8081A	H1Y	SO	N							
				DIELDRIN	21	8.4J		J	UG/KG	
				ENDOSULFAN II	21	13J		J	UG/KG	
				GAMMA-CHLORDANE	10	7.6J		J	UG/KG	
				HEPTACHLOR	10	10U		UJ	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139A										
8081A	H2Y	SO	N							
				DELTA-BHC	5.2	4.1J		J	UG/KG	
				ENDOSULFAN II	10	7.2J		J	UG/KG	
8081A	I1Y	SO	N							
				DELTA-BHC	5.2	2.5J		J	UG/KG	
				DIELDRIN	10	3.9J		J	UG/KG	
				ENDOSULFAN II	10	9.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	5.1J		J	UG/KG	
				HEPTACHLOR	5.2	5.2U		UJ	UG/KG	
8081A	I2Y	SO	N							
				DELTA-BHC	5.2	3.5J		J	UG/KG	
				ENDOSULFAN II	10	7.1J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09E139A

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09E139A	A11Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	A12Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	C1Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	D1Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	E1Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	F1Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	G1Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	H1Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09E139A	I1Y	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E139A

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E139A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A11Y	E139-44T	8081A	SO	BETA-BHC	J	4.7	5.1	UG/KG
				ENDOSULFAN II	J	4.0	10	UG/KG
A12Y	E139-42I			BETA-BHC	J	42	51	UG/KG
				DELTA-BHC	J	23	51	UG/KG
				ENDOSULFAN II	J	83	100	UG/KG
A1Y	E139-22T			4,4'-DDD	J	5.9	10	UG/KG
				DIELDRIN	J	4.8	10	UG/KG
				ENDOSULFAN II	J	7.4	10	UG/KG
				GAMMA-CHLORDANE	J	3.8	5.2	UG/KG
B1Y	E139-24T			DELTA-BHC	J	3.5	5.2	UG/KG
				DIELDRIN	J	6.3	10	UG/KG
				GAMMA-CHLORDANE	J	4.3	5.2	UG/KG
C1Y	E139-26T			DELTA-BHC	J	3.1	5.2	UG/KG
				DIELDRIN	J	5.4	10	UG/KG
				ENDOSULFAN II	J	9.8	10	UG/KG
				GAMMA-CHLORDANE	J	3.8	5.2	UG/KG
D1Y	E139-28T			DELTA-BHC	J	3.5	5.2	UG/KG
				DIELDRIN	J	6.4	10	UG/KG
				ENDOSULFAN II	J	9.6	10	UG/KG
E1Y	E139-30T			DIELDRIN	J	6.0	10	UG/KG
				ENDOSULFAN II	J	9.9	10	UG/KG
E2Y	E139-10T			DELTA-BHC	J	4.5	5.2	UG/KG
				ENDOSULFAN II	J	7.3	10	UG/KG
F1Y	E139-32T			ENDOSULFAN II	J	12	21	UG/KG
				GAMMA-CHLORDANE	J	9.0	10	UG/KG
F2Y	E139-12T			DELTA-BHC	J	2.7	5.1	UG/KG
				DIELDRIN	J	4.5	10	UG/KG
				ENDOSULFAN II	J	7.3	10	UG/KG
G1Y	E139-34T			4,4'-DDD	J	8.0	10	UG/KG
				DELTA-BHC	J	2.9	5.2	UG/KG
				DIELDRIN	J	8.6	10	UG/KG
				METHOXYCHLOR	J	14	52	UG/KG
G2Y	E139-14T			DELTA-BHC	J	3.9	5.2	UG/KG
				DIELDRIN	J	4.6	10	UG/KG
				ENDOSULFAN II	J	8.3	10	UG/KG
H1Y	E139-36T			DIELDRIN	J	8.4	21	UG/KG

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E139A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
H1Y	E139-36T	8081A	SO	ENDOSULFAN II	J	13	21	UG/KG
				GAMMA-CHLORDANE	J	7.6	10	UG/KG
H2Y	E139-16T			DELTA-BHC	J	4.1	5.2	UG/KG
				ENDOSULFAN II	J	7.2	10	UG/KG
I1Y	E139-38T			DELTA-BHC	J	2.5	5.2	UG/KG
				DIELDRIN	J	3.9	10	UG/KG
				ENDOSULFAN II	J	9.8	10	UG/KG
				GAMMA-CHLORDANE	J	5.1	5.2	UG/KG
I2Y	E139-18T			DELTA-BHC	J	3.5	5.2	UG/KG
				ENDOSULFAN II	J	7.1	10	UG/KG

LDC #: 20914N3a

SDG #: 09E139A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 6/9/09

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/11-12/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	~~N~~ A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL ~~SAMPLE~~ SOILS

1	E2Y	11	F1Y	21		31	
2	F2Y	12	G1Y	22		32	
3	G2Y	13	H1Y	23		33	
4	H2Y	14	I1Y	24		34	
5	I2Y	15	A12Y	25		35	
6	A1Y	16	A11Y	26		36	
7	B1Y	17	MBLKIS	27		37	
8	C1Y	18		28		38	
9	D1Y	19		29		39	
10	E1Y	20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 20914N3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or ___ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies? 20%

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD 20% (Limit ≤ ~~15.0~~)	RT (limit)	Associated Samples	Qualifications
	5/20/09	SE20016B	RTX-CLP EST11	E	31	( )	~~ALL+BLK~~ 8-16	J/UJ/A
						( )		
						( )		
	~~5/20/09~~	~~SE20030A~~	~~RTX-CLP EST~~	~~H~~	~~2T~~	( )	~~1-7, Blk~~	~~J/UJ/A~~
		~~B~~	~~II~~	~~Z~~	~~2T~~	( )		~~J~~
						( )		
						( )		
						( )		
						( )		
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CONCALNew.wpd

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-May-2009	A13X	E228-05T	N	3550B	8081A	3
20-May-2009	A14X	E228-07T	N	3550B	8081A	3
20-May-2009	A15X	E228-09T	N	3550B	8081A	3
20-May-2009	A16X	E228-11T	N	3550B	8081A	3
20-May-2009	A10X	E228-03T	N	3550B	8081A	3
20-May-2009	A9X	E228-01T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E228										
8081A	A10X	SO	N							
				DELTA-BHC	10	7.5J		J	UG/KG	
				ENDOSULFAN II	21	9.3J		J	UG/KG	
8081A	A13X	SO	N							
				BETA-BHC	41	20J		J	UG/KG	
				GAMMA-CHLORDANE	41	38J		J	UG/KG	
8081A	A14X	SO	N							
				ENDOSULFAN II	41	15J		J	UG/KG	
				ENDRIN ALDEHYDE	41	35J		J	UG/KG	
8081A	A15X	SO	N							
				BETA-BHC	21	8.0J		J	UG/KG	
				ENDOSULFAN II	41	15J		J	UG/KG	
				ENDRIN ALDEHYDE	41	34J		J	UG/KG	
8081A	A16X	SO	N							
				ENDOSULFAN II	41	22J		J	UG/KG	
				ENDRIN ALDEHYDE	41	38J		J	UG/KG	
				GAMMA-CHLORDANE	21	11J		J	UG/KG	
8081A	A9X	SO	N							
				4,4'-DDT	10	4.1J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E228

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E228

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E228 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A10X	E228-03T	8081A	SO	DELTA-BHC	J	7.5	10	UG/KG
				ENDOSULFAN II	J	9.3	21	UG/KG
A13X	E228-05T			BETA-BHC	J	20	41	UG/KG
				GAMMA-CHLORDANE	J	38	41	UG/KG
A14X	E228-07T			ENDOSULFAN II	J	15	41	UG/KG
				ENDRIN ALDEHYDE	J	35	41	UG/KG
A15X	E228-09T			BETA-BHC	J	8.0	21	UG/KG
				ENDOSULFAN II	J	15	41	UG/KG
				ENDRIN ALDEHYDE	J	34	41	UG/KG
A16X	E228-11T			ENDOSULFAN II	J	22	41	UG/KG
				ENDRIN ALDEHYDE	J	38	41	UG/KG
				GAMMA-CHLORDANE	J	11	21	UG/KG
A9X	E228-01T			4,4'-DDT	J	4.1	10	UG/KG

LDC #: 20914O3a

SDG #: 09E228

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 6/9/09

Page: 1 of 1

Reviewer: an

2nd Reviewer: a

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/20/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%.
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	~~N~~ A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A9X	11	MBLK15	21		31	
2	A10X	12		22		32	
3	A13X	13		23		33	
4	A14X	14		24		34	
5	A15X	15		25		35	
6	A16X	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 4th, 2009.

LDC project # 20914:

SDG #	Fraction
09E012, 09E012A	Pesticides (EPA SW 846 Method 8081A)
09E034, 09E034A	
09E054, 09E054A	
09E072, 09E072A	
09E098, 09E117	
09E130, 09E130A	
09E139, 09E139A	
09E228, 09E228A	

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)

- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
20-May-2009	A13Y	E228-06I	N	3550B	8081A	3
20-May-2009	A14Y	E228-08T	N	3550B	8081A	3
20-May-2009	A15Y	E228-10T	N	3550B	8081A	3
20-May-2009	A16Y	E228-12I	N	3550B	8081A	3
20-May-2009	A10Y	E228-04I	N	3550B	8081A	4

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E228A										
8081A	A13Y	SO	N							
				ENDOSULFAN II	41	22J		J	UG/KG	
				GAMMA-CHLORDANE	21	13J		J	UG/KG	
8081A	A14Y	SO	N							
				DELTA-BHC	10	6.4J		J	UG/KG	
				ENDRIN ALDEHYDE	21	14J		J	UG/KG	
8081A	A15Y	SO	N							
				BETA-BHC	10	8.7J		J	UG/KG	
				ENDOSULFAN II	21	10J		J	UG/KG	
8081A	A16Y	SO	N							
				DELTA-BHC	5.3	3.1J		J	UG/KG	
				ENDOSULFAN II	11	5.8J		J	UG/KG	
				ENDRIN KETONE	11	6.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.3	2.9J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Reason for Qualified Results

SDG Nos. : 09E228A

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E228A

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E228A **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A13Y	E228-06I	8081A	SO	ENDOSULFAN II	J	22	41	UG/KG
				GAMMA-CHLORDANE	J	13	21	UG/KG
A14Y	E228-08T			DELTA-BHC	J	6.4	10	UG/KG
				ENDRIN ALDEHYDE	J	14	21	UG/KG
A15Y	E228-10T			BETA-BHC	J	8.7	10	UG/KG
				ENDOSULFAN II	J	10	21	UG/KG
A16Y	E228-12I			DELTA-BHC	J	3.1	5.3	UG/KG
				ENDOSULFAN II	J	5.8	11	UG/KG
				ENDRIN KETONE	J	6.4	11	UG/KG
				GAMMA-CHLORDANE	J	2.9	5.3	UG/KG

LDC #: 20914P3a

SDG #: 09E228A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR/IV

Date: 6/19/09

Page: 1 of 1

Reviewer: ajr

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/20/08
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	A	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOILS

1	A10Y**	11	MBLKIS	21		31	
2	A13Y	12		22		32	
3	A14Y	13		23		33	
4	A15Y	14		24		34	
5	A16Y	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	MCB Camp Pendleton, Ag Fields A6 Phase BI
Collection Date:	May 20, 2009
LDC Report Date:	June 16, 2009
Matrix:	Soil
Parameters:	Chlorinated Pesticides
Validation Level:	NFESC Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	09E228A

Sample Identification

A10Y

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09E228A	All compounds reported below the RL.	J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09E228A

SDG	Sample	Compound	Flag	A or P	Reason
09E228A	A10Y	All compounds reported below the RL	J (all detects)	A	Compound quantitation and CRQLs

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09E228A

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09E228A

No Sample Data Qualified in this SDG

LDC #: 20914P3a

SDG #: 09E228A

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR(IV)

Date: 6/15/09

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/20/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation. Client specified
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS/LCSD
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	A	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	A10Y**	11	MBLK1S	21		31	
~~2~~	~~A13Y~~	12		22		32	
3	A14Y	13		23		33	
4	A15Y	14		24		34	
~~5~~	~~A16Y~~	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 20914P3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer:
2nd Reviewer:

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD Instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			—	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ___ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15%~~ 20.0 or percent recoveries ~~85-115%~~ 80-120?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?			✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 20914 P3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: d
2nd Reviewer: d

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓	✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

C:\docs\Work\Pesticides\COMPLST-3S.wpd

LDC #: 20914P3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

A = Area of compound,
C = Concentration of compound,
S = Standard deviation of the CF
X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported CF (8x std)	Recalculated CF (8x std)	Reported Average CF (initial)	Recalculated Average CF (initial)	Reported %RSD	Recalculated %RSD
1	1 Cal RTX-CLP	5/29/09	C	12314	12314	~~12034.6~~	12034.6	19.6	19.6
			J	11409	11409	11139.1	11139.1	10.4	10.4
2	1 Cal RTX CLP II	↓	C	7413	7413	7588.3	~~783~~ 7588.3	13.2	13.2
			J	8670	8670	8667.6	8667.6	7.0	7.0
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914P3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: dh
2nd Reviewer: [illegible]

METHOD: GC 8081 HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = Initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	SE29003A	5/29/09	C	20.0	~~22.82~~ ~~22.82~~	22.82	14	14
	RTX CLP		J	40.0	46.51	46.51	16	16
2	SE29003B		C	20.0	23.20	23.21	16	16
	RTX CLP II		J	40.0	45.37	45.37	13	13
3	SE29018A		C	20.0	22.36	22.36	12	12
	RTX CLP		J	40.0	44.58	44.58	11	11
4	SE29018B		C	20.0	23.68	23.68	18	18
	RTX CLP II		J	40.0	43.55	43.55	9	9

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914 P3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX-CLP	40.0	36.5	91	91	0
Tetrachloro-m-xylene	↓	↓				
Decachlorobiphenyl			56.9	142	142	0
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 20914P3a
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration
SA = Spike added
SC = Concentration

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS/LCSD

Compound	Spike Added (µg/kg)		Spiked Sample Concentration (µg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma~~ delta BHC	13.3	13.3	16.8	18.5	126	126	139	139	10	10
~~4,4'-DDT~~ J	↓	↓	14.4	16.3	108	108	122	123	12	12

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 20914P3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: dy
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 1 J :

$$\text{Conc.} = \frac{(159790 \times 10 \times 2.5)}{(11139.1 \times 30.02 \times 0.962)}$$

$= 12.4$ µg/kg

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.3S

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

July 10, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on June 26th, 2009.

LDC project # 21075:

SDG #	Fraction
09E139B	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-May-2009	A12Y	E139-42	N	3520C	8081A-STLC	3
12-May-2009	A12Y	E139-42	N	3520C	8081A-TCLP	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09E139B										
8081A-STLC	A12Y	SO	N							
				4,4'-DDD	2.0	2.0U		UJ	UG/L	
				4,4'-DDE	2.0	2.0U		UJ	UG/L	
				4,4'-DDT	2.0	2.0U		UJ	UG/L	
				ALDRIN	1.0	1.0U		UJ	UG/L	
				ALPHA-BHC	1.0	1.0U		UJ	UG/L	
				ALPHA-CHLORDANE	1.0	1.0U		UJ	UG/L	
				BETA-BHC	1.0	0.56J		J	UG/L	
				DELTA-BHC	1.0	1.0U		UJ	UG/L	
				DIELDRIN	2.0	2.0U		UJ	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDOSULFAN SULFATE	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				ENDRIN KETONE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				GAMMA-CHLORDANE	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
				METHOXYCHLOR	10	10U		UJ	UG/L	
				TOXAPHENE	20	20U		UJ	UG/L	
8081A-TCLP	A12Y	SO	N							
				ALPHA-CHLORDANE	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				GAMMA-CHLORDANE	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
				METHOXYCHLOR	10	10U		UJ	UG/L	
				TOXAPHENE	20	20U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09E139B

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09E139B	A12Y	8081A-STLC	72-54-8		J	4,4'-DDD	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	72-55-9		J	4,4'-DDE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	50-29-3		J	4,4'-DDT	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	309-00-2		J	ALDRIN	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	319-84-6		J	ALPHA-BHC	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	5103-71-9		J	ALPHA-CHLORDANE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	319-85-7	J		BETA-BHC	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	319-86-8		J	DELTA-BHC	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	60-57-1		J	DIELDRIN	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	959-98-8		J	ENDOSULFAN I	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	33213-65-9		J	ENDOSULFAN II	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	1031-07-8		J	ENDOSULFAN SULFATE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	72-20-8		J	ENDRIN	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	7421-93-4		J	ENDRIN ALDEHYDE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	53494-70-5		J	ENDRIN KETONE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	58-89-9		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09E139B	A12Y	8081A-STLC	58-89-9		J	GAMMA-BHC (LINDANE)	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	5103-74-2		J	GAMMA-CHLORDANE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	76-44-8		J	HEPTACHLOR	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	1024-57-3		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference

Insight

Reason for Qualified Results

SDG Nos. : 09E139B

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09E139B	A12Y	8081A-STLC	1024-57-3		J	HEPTACHLOR EPOXIDE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	72-43-5		J	METHOXYCHLOR	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-STLC	8001-35-2		J	TOXAPHENE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	5103-71-9		J	ALPHA-CHLORDANE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	72-20-8		J	ENDRIN	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	58-89-9		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09E139B	A12Y	8081A-TCLP	58-89-9		J	GAMMA-BHC (LINDANE)	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	5103-74-2		J	GAMMA-CHLORDANE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	76-44-8		J	HEPTACHLOR	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	1024-57-3		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09E139B	A12Y	8081A-TCLP	1024-57-3		J	HEPTACHLOR EPOXIDE	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	72-43-5		J	METHOXYCHLOR	Holding time exceeded from collection to extraction
09E139B	A12Y	8081A-TCLP	8001-35-2		J	TOXAPHENE	Holding time exceeded from collection to extraction

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09E139B

QC Outlier Report: Holding Times

Lab Report Batch: 09E139B

Lab ID: EMXT

					Actual Holding Time			Criteria				Reported Dates (and Times)		
Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Prep Method	Coll To Leach	Leach To Prep	Prep To Ana	Coll To Leach	Leach To Prep	Prep To Ana	Unit of Meas	Collection Date	Leach Date	Analysis Date
A12Y	E139-42	8081A-STLC	AQ	3520C	17.0	3.0	1.0	14	7	40.0	Days	05/12/2009	05/29/2009	06/02/2009
		8081A-TCLP	AQ	3520C	17.0	3.0	1.0	14	7	40.0	Days	05/12/2009	05/29/2009	06/02/2009

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09E139B **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A12Y	E139-42	8081A-STLC	AQ	BETA-BHC	J	0.56	1.0	UG/L

LDC #: 21075A3a

SDG #: 09E139B

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 6/30/09

Page: 1 of 1

Reviewer: ap

2nd Reviewer: al

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 5/12/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	N	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: S/W ~~All H2O~~ All soil

1 1	A12Y(STLC)	11 1	MBLKIW	21		31	
2 1	A12Y(TCLP)	12 1	MBLKIS	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21075A3a
SDG #: In Com

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ash
2nd Reviewer: CL

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)
Please see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

What type or calibration verification calculation was performed? X %D or ___ RPD

Y N N/A Were Evaluation mix standards run before initial calibration and before samples? 20.0

Y N N/A Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard (≤15.0% for individual breakdowns)?

Y N N/A Was at least one standard run daily to verify the working curve?

Y N N/A Did the continuing calibration standards meet the percent difference (%D) / relative percent difference (RPD) criteria of ≤15.0%?

Level IV/D Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Column	Compound	%D 20 (Limit ≤ ~~15.0~~)	RT (Limits)	Associated Samples	Qualifications
	6/2/09	SF020158	RTX-CLPesticide	D	25	( )	All + BLK	J / UJ / A
				G	28	( )	↓	↓
						( )		
						( )		
						( )		
						( )		
						( )		
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						( )		
						( )		

A. alpha-BHC	E. Heptachlor	I. Dieldrin	M. 4,4'-DDD	Q. Endrin ketone	U. Toxaphene	Y. Aroclor-1242	CC. DB 608	GG.___
B. beta-BHC	F. Aldrin	J. 4,4'-DDE	N. Endosulfan sulfate	R. Endrin aldehyde	V. Aroclor-1016	Z. Aroclor-1248	DD. DB 1701	HH.___
C. delta-BHC	G. Heptachlor epoxide	K. Endrin	O. 4,4'-DDT	S. alpha-Chlordane	W. Aroclor-1221	AA. Aroclor-1254	EE.___	II.___
D. gamma-BHC	H. Endosulfan I	L. Endosulfan II	P. Methoxychlor	T. gamma-Chlordane	X. Aroclor-1232	BB. Aroclor-1260	FF.___	JJ.___

CONCAL.3S.wpd

APPENDIX C

LABORATORY (DATA VALIDATION) REPORTS
CONFIRMATION SAMPLING

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
15-Jun-2009	F2-CON	F197-07	N	3550B	8081A	3
15-Jun-2009	G2-CON	F197-08	N	3550B	8081A	3
15-Jun-2009	G1-CON	F197-06	N	3550B	8081A	3
15-Jun-2009	G1-CONMS	F197-06M	MS	3550B	8081A	3
15-Jun-2009	G1-CONMSD	F197-06S	MSD	3550B	8081A	3
15-Jun-2009	F1-CON	F197-05	N	3550B	8081A	3
15-Jun-2009	E1-CON	F197-04	N	3550B	8081A	3
15-Jun-2009	D1-CON	F197-03	N	3550B	8081A	3
15-Jun-2009	C1-CON	F197-02	N	3550B	8081A	3
15-Jun-2009	B1-CON	F197-01	N	3550B	8081A	4

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F197										
8081A	B1-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				4,4'-DDE	10	29		J	UG/KG	
				GAMMA-CHLORDANE	5.2	2.0J		J	UG/KG	
8081A	C1-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
8081A	D1-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				4,4'-DDE	10	5.2J		J	UG/KG	
				4,4'-DDT	10	5.6J		J	UG/KG	
				TOXAPHENE	130	50J		J	UG/KG	
8081A	E1-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
8081A	F1-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				ENDOSULFAN II	10	4.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.8J		J	UG/KG	
8081A	F2-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.2	2.1J		J	UG/KG	
				TOXAPHENE	130	120J		J	UG/KG	
8081A	G1-CON	SO	N							
				4,4'-DDD	8.2	8.2U		UJ	UG/KG	
				ENDOSULFAN II	8.2	3.4J		J	UG/KG	
				ENDRIN	8.2	8.2U		UJ	UG/KG	
				ENDRIN ALDEHYDE	8.2	7.0J		J	UG/KG	
				GAMMA-CHLORDANE	4.1	2.2J		J	UG/KG	
				HEPTACHLOR EPOXIDE	4.1	4.1U		UJ	UG/KG	
				METHOXYCHLOR	41	41U		UJ	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F197										
8081A	G2-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.2	3.2J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09F197

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09F197	B1-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F197	C1-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F197	D1-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F197	E1-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F197	F1-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F197	F2-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F197	G1-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F197	G1-CON	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09F197	G1-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F197	G1-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09F197	G2-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09F197

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09F197 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
B1-CON	8081A	4,4'-DDE	72-55-9	J		Professional Judgement

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09F197 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
B1-CON	F197-01	8081A	SO	GAMMA-CHLORDANE	J	2.0	5.2	UG/KG
D1-CON	F197-03			4,4'-DDE	J	5.2	10	UG/KG
				4,4'-DDT	J	5.6	10	UG/KG
				TOXAPHENE	J	50	130	UG/KG
F1-CON	F197-05			ENDOSULFAN II	J	4.8	10	UG/KG
				GAMMA-CHLORDANE	J	3.8	5.1	UG/KG
F2-CON	F197-07			GAMMA-CHLORDANE	J	2.1	5.2	UG/KG
				TOXAPHENE	J	120	130	UG/KG
G1-CON	F197-06			ENDOSULFAN II	J	3.4	8.2	UG/KG
				ENDRIN ALDEHYDE	J	7.0	8.2	UG/KG
				GAMMA-CHLORDANE	J	2.2	4.1	UG/KG
G2-CON	F197-08			GAMMA-CHLORDANE	J	3.2	5.2	UG/KG

21264A3a

09F197

ory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 8/4/09

Page: 1 of 1

Reviewer: agr

2nd Reviewer: [illegible]

OD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached dation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/15/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	N	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOIL

1	B1-CON**	11	MBLK15	21		31	
2	C1-CON	12		22		32	
3	D1-CON	13		23		33	
4	E1-CON	14		24		34	
5	F1-CON	15		25		35	
6	G1-CON	16		26		36	
7	F2-CON	17		27		37	
8	G2-CON	18		28		38	
9	G1-CONMS	19		29		39	
10	G1-CONMSD	20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264A3a
SDG #: 09F197

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ajr

METHOD: X GC __ HPLC

2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies? 20.0

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0~~ 20.0%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20.0)	RT (limit)	Associated Samples	Qualifications
	6/18/09	SF18004A	RTX-CLPEST	M	24	( )	1-5, 7-8+MBLK15	J/UJ/A
						( )		
	6/19/09	SF18066A			27	( )	6, 9-10	
				P	31	( )		
						( )		
		SF18066B	RTX-CLPEST II	6	23	( )		
				K	24	( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
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						( )		

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCB Camp Pendleton, Ag Fields A6 Phase BI

Collection Date: June 15, 2009

LDC Report Date: August 11, 2009

Matrix: Soil

Parameters: Chlorinated Pesticides

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 09F197

Sample Identification

B1-CON

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
6/18/09	SF18004A	RTX-CLP	4,4'-DDD	24	All samples in SDG 09F197	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
B1-CON	4,4'-DDE	52	J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09F197	All compounds reported below the RL.	J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09F197

SDG	Sample	Compound	Flag	A or P	Reason
09F197	B1-CON	4,4'-DDD	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
09F197	B1-CON	4,4'-DDE	J (all detects)	A	Compound quantitation and CRQLs (RPD)
09F197	B1-CON	All compounds reported below the RL	J (all detects)	A	Compound quantitation and CRQLs

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09F197

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09F197

No Sample Data Qualified in this SDG

LDC #: 21264A3a

SDG #: 09F197

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~ IV

Date: 8/10/09

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/15/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	A	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS/LCSD
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	B1-CON**	11	MBLK1S	21		31	
~~2~~	~~C1-CON~~	12		22		32	
3	D1-CON	13		23		33	
4	E1-CON	14		24		34	
5	F1-CON	15		25		35	
6	G1-CON	16		26		36	
7	F2-CON	17		27		37	
8	G2-CON	18		28		38	
9	G1-CONMS	19		29		39	
~~10~~	~~G1-CONMSD~~	20		30		40	

LDC #: 21264A3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?				
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ____%D or ____%R				
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recovieries ~~85-115~~ 80-120%?	✗	✓		
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?			✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				

LDC #: 21264A3a
SDG #: See cover

VALIDATION FINDINGS CHECKLIST

Reviewer: dl
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264A3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: dh

METHOD: ✓GC __ HPLC

2nd Reviewer: ✓

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? ✓%D or __RPD

(Y) N N/A Were continuing calibration standards analyzed at the required frequencies?

Y (N) N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15~~20%?

Level IV Only

(Y) N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD 20 (Limit ≤ ~~15.0~~)	RT (limit)	Associated Samples	Qualifications
	6/18/09	SF18004A	~~GC~~ RTX-CLP	M	24	( )	All + blk	J/UJ/A
						( )		
						( )		
						( )		
						( )		
						( )		
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LDC #: 21264A3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: dr
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y N N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings bellow.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	J	1	52	J det / A

Comments: See sample calculation verification worksheet for recalculations

LDC #: 21264A3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: ch
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
Average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where: A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (20 std)	Recalculated CF (20 std)	Reported CF (initial)	Recalculated CF (intial)	Reported %RSD	Recalculated %RSD
1	1 Cal	6/1/09	T	14605	14605	14167.7	14167.7	3.4	3.4
	RTX-CL Pest		O	7973	7973	8172.6	8172.6	6.6	6.6
2	1 Cal		T	10324	10324	10499.6	10499.6	2.8	2.8
	RTX CL Pest II		O	4831	4830	4978.2	4978.2	6.1	6.1
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264A3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: dw
2nd Reviewer: A

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The continuing calibration percent difference (%D) values were recalculated for _____ using the following calculation:

Percent difference (%D) = 100 * (N - C)/N

Where: N = __ Initial Calibration Factor or __ Nominal Amount (ng)
C = __ Calibration Factor from Continuing Calibration Standard or __ Calculated Amount (ng)

Standard ID	Calibration Date/Time	Compound	Average CF/ CCV Conc	Reported CF/Conc CCV	Recalculated CF/Conc CCV	Reported %D	Recalculated %D
SF18004A	6/18/09	T	20.0	20.54	20.54	3	3
		O	40.0	35.04	35.04	12	12
SF18004B		T	20.0	19.90	19.90	0	0
		O	40.0	37.15	37.15	7	7

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264A3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: dh
2nd reviewer: M

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX-CLPesticI	40.0	38.3	96	96	0
Tetrachloro-m-xylene	↓	↓				
Decachlorobiphenyl			41.6	104	104	0
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 21264A3a

SDG #: See Cover

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery; LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS1S/LCD1S

Compound	Spike Added (µg/kg)		Spiked Sample Concentration ( )		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma-BHC~~ T	13.3	13.3	13.6	12.6	102	102	95	95	8	8
4,4'-DDT	↓	↓	13.3	12.3	100	100	92	92	8	8
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264A3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: dr
2nd reviewer: AV

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 1 T :

$$\text{Conc.} = \frac{(32815 \times 10 \times 2.5)}{(14167.7 \times 30.03 \times 0.964)}$$

$= 2.00\ \mu g/kg$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.3S

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
22-Jun-2009	H9-CON	F249-04T	N	3550B	8081A	4
22-Jun-2009	G9-CON	F249-03T	N	3550B	8081A	3
22-Jun-2009	F9-CON	F249-02T	N	3550B	8081A	3
22-Jun-2009	E9-CON	F249-01I	N	3550B	8081A	3
22-Jun-2009	D9-CON	F249-05T	N	3550B	8081A	3
22-Jun-2009	F10-CON	F249-08T	N	3550B	8081A	3
22-Jun-2009	E10-CON	F249-07T	N	3550B	8081A	3
22-Jun-2009	D10-CONMS	F249-06M	MS	3550B	8081A	3
22-Jun-2009	D10-CONMSD	F249-06S	MSD	3550B	8081A	3
22-Jun-2009	D10-CON	F249-06T	N	3550B	8081A	3
22-Jun-2009	F11-CON	F249-11T	N	3550B	8081A	3
22-Jun-2009	E11-CON	F249-10T	N	3550B	8081A	3
22-Jun-2009	D11-CON	F249-09T	N	3550B	8081A	3
22-Jun-2009	E12-CON	F249-12T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F249										
8081A	D10-CON	SO	N							
				DELTA-BHC	5.2	3.6J		J	UG/KG	
				DIELDRIN	10	5.5J		J	UG/KG	
8081A	D11-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				DELTA-BHC	5.2	4.8J		J	UG/KG	
				DIELDRIN	10	9.4J		J	UG/KG	
				ENDOSULFAN II	10	5.6J		J	UG/KG	
8081A	D9-CON	SO	N							
				GAMMA-CHLORDANE	5.2	4.6J		J	UG/KG	
8081A	E10-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.2	2.6J		J	UG/KG	
				TOXAPHENE	130	97J		J	UG/KG	
8081A	E11-CON	SO	N							
				4,4'-DDD	10	3.3J		J	UG/KG	
8081A	E12-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				DIELDRIN	10	4.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	3.0J		J	UG/KG	
				TOXAPHENE	130	120J		J	UG/KG	
8081A	E9-CON	SO	N							
				4,4'-DDD	21	21U		UJ	UG/KG	
8081A	F10-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.2	4.5J		J	UG/KG	
8081A	F11-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.2	2.8J		J	UG/KG	
				TOXAPHENE	130	87J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F249										
8081A	F9-CON	SO	N							
				DELTA-BHC	5.2	3.6J		J	UG/KG	
				ENDOSULFAN II	10	7.6J		J	UG/KG	
8081A	H9-CON	SO	N							
				ALPHA-CHLORDANE	5.2	29		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09F249

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09F249	D11-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F249	E10-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F249	E11-CON	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09F249	E12-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F249	E9-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F249	F10-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F249	F11-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09F249

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09F249 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
H9-CON	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09F249 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
D10-CON	F249-06T	8081A	SO	DELTA-BHC	J	3.6	5.2	UG/KG
				DIELDRIN	J	5.5	10	UG/KG
D11-CON	F249-09T			DELTA-BHC	J	4.8	5.2	UG/KG
				DIELDRIN	J	9.4	10	UG/KG
				ENDOSULFAN II	J	5.6	10	UG/KG
D9-CON	F249-05T			GAMMA-CHLORDANE	J	4.6	5.2	UG/KG
E10-CON	F249-07T			GAMMA-CHLORDANE	J	2.6	5.2	UG/KG
				TOXAPHENE	J	97	130	UG/KG
E11-CON	F249-10T			4,4'-DDD	J	3.3	10	UG/KG
E12-CON	F249-12T			DIELDRIN	J	4.6	10	UG/KG
				GAMMA-CHLORDANE	J	3.0	5.2	UG/KG
				TOXAPHENE	J	120	130	UG/KG
F10-CON	F249-08T			GAMMA-CHLORDANE	J	4.5	5.2	UG/KG
F11-CON	F249-11T			GAMMA-CHLORDANE	J	2.8	5.2	UG/KG
				TOXAPHENE	J	87	130	UG/KG
F9-CON	F249-02T			DELTA-BHC	J	3.6	5.2	UG/KG
				ENDOSULFAN II	J	7.6	10	UG/KG

LDC #: 21264B3a

SDG #: 09F249

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR/IV

Date: 8/4/09

Page: 1 of 1

Reviewer: ajr

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/22/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	N	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOIL

1	E9-CON	11	F11-CON	21	MBLK1S	31	
2	F9-CON	12	E12-CON	22		32	
3	G9-CON	13	D10-CONMS	23		33	
4	H9-CON**	14	D10-CONMSD	24		34	
5	D9-CON	15		25		35	
6	D10-CON	16		26		36	
7	E10-CON	17		27		37	
8	F10-CON	18		28		38	
9	D11-CON	19		29		39	
10	E11-CON	20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264B3a
SDG #: 09F249

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ap
2nd Reviewer: [illegible]

METHOD: X GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or ___RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0~~ 20.0%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20.0)	RT (limit)	Associated Samples	Qualifications
	6/24/09	SF24017A	RTX-CLPEST	M	23	( )	1,7-12	J/UJ/A
						( )		
						( )		
						( )		
						( )		
						( )		
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CONCALNew.wpd

Enclosure II

EPA Level IV Validation Reports

LDC Report# 21264B3a

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	MCB Camp Pendleton, Ag Fields A6 Phase BI
Collection Date:	June 22, 2009
LDC Report Date:	August 11, 2009
Matrix:	Soil
Parameters:	Chlorinated Pesticides
Validation Level:	NFESC Level IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	09F249

Sample Identification

H9-CON

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
H9-CON	alpha-Chlordane	103	J (all detects)	A

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09F249	All compounds reported below the RL.	J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09F249

SDG	Sample	Compound	Flag	A or P	Reason
09F249	H9-CON	alpha-Chlordane	J (all detects)	A	Compound quantitation and CRQLs (RPD)
09F249	H9-CON	All compounds reported below the RL	J (all detects)	A	Compound quantitation and CRQLs

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09F249

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09F249

No Sample Data Qualified in this SDG

LDC #: 21264B3a

SDG #: 09F249

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~/IV

Date: 8/10/09

Page: 1 of 1

Reviewer: dn

2nd Reviewer: A

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/22/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD < 20%
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	A	Not reviewed for ADR validation.
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

1	~~E9-CON~~	~~11~~	~~F11-CON~~	21	MBLK1S	31	
2	~~F9-CON~~	12	~~E12-CON~~	22		32	
~~3~~	~~G9-CON~~	13	D10-CONMS	23		33	
4	H9-CON**	~~14~~	~~D10-CONMSD~~	24		34	
~~5~~	~~D9-CON~~	15		25		35	
6	D10-CON	16		26		36	
7	E10-CON	17		27		37	
8	F10-CON	18		28		38	
9	D11-CON	19		29		39	
~~10~~	~~E11-CON~~	20		30		40	

LDC #: 21264B3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: dh
2nd Reviewer: A

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?				
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ____%R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ ~~15~~ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recovieries ~~85-115~~ 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?			✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				

LDC #: 21264 B3a
SDG #: See cover

VALIDATION FINDINGS CHECKLIST

Reviewer: a
2nd Reviewer: R

Validation Area	Yes	No	NA	Findings/Comments
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		✓		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264B3a
SDG #: See cover

METHOD: ✓ GC __ HPLC

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

(Y) N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
(Y) N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y (N) N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings bellow.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	8 S	4	103	J det / A

Comments: See sample calculation verification worksheet for recalculations

COMQUA%DNew.wpd

LDC #: 21264B3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: ch
2nd Reviewer: K

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
Average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where: A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (20 std)	Recalculated CF (20 std)	Reported CF (initial)	Recalculated CF (intial)	Reported %RSD	Recalculated %RSD
1	1Cal	6/1/09	T	14605	14605	14167.7	14167.7	3.4	3.4
	RTX-CLPest		O	7973	7973	8172.6	8172.6	6.6	6.6
2	1Cal		T	10324	10324	10499.6	10499.6	2.8	2.8
	RTX CLPest II		O	4831	4830	4978.2	4978.2	6.1	6.1
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264B3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: dh
2nd Reviewer: A

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The continuing calibration percent difference (%D) values were recalculated for _____ using the following calculation:

Percent difference (%D) = 100 * (N - C)/N

Where: N = __ Initial Calibration Factor or __ Nominal Amount (ng)
C = __ Calibration Factor from Continuing Calibration Standard or __ Calculated Amount (ng)

Standard ID	Calibration Date/Time	Compound	Average CF/ CCV Conc	Reported CF/Conc CCV	Recalculated CF/Conc CCV	Reported %D	Recalculated %D
SF24004A	6/24/09	T	20.0	20.34	20.34	2	2
		O	40.0	35.58	35.58	11	11
SF24004B		T	20.0	20.14	20.14	1	1
		O	40.0	39.18	39.18	2	2

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264B3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: dh
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 4

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX-CL Pest II	40.0	36.0	90	90	0
Tetrachloro-m-xylene	↓	↓				
Decachlorobiphenyl			37.9	95	95	0
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 21264B3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery; LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS1S

Compound	Spike Added (ug/Kg)		Spiked Sample Concentration (ug/Kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma-BHC~~ T	13.3	—	14.2	—	107	107				
4,4'-DDT	↓		13.9		104	105				
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264B3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: dn
2nd reviewer: K

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 4 0 :

$$\text{Conc.} = \frac{(228168 \times 2.10 \times 2.5)}{(4978.2 \times 30.03 \times 0.965)}$$

$$= 39.54\ \mu g/Kg$$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.3S

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
24-Jun-2009	D12-CON	F264-01T	N	3550B	8081A	3
24-Jun-2009	B10-CON	F264-02T	N	3550B	8081A	3
24-Jun-2009	B11-CON	F264-03T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F264										
8081A	B10-CON	SO	N							
				METHOXYCHLOR	52	52U		UJ	UG/KG	
8081A	B11-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				DELTA-BHC	5.2	3.1J		J	UG/KG	
				ENDOSULFAN II	10	6.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	4.3J		J	UG/KG	
				METHOXYCHLOR	52	52U		UJ	UG/KG	
8081A	D12-CON	SO	N							
				DELTA-BHC	5.2	3.6J		J	UG/KG	
				DIELDRIN	10	8.3J		J	UG/KG	
				ENDOSULFAN II	10	4.5J		J	UG/KG	
				METHOXYCHLOR	52	52U		UJ	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09F264

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09F264	B10-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09F264	B11-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F264	B11-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09F264	D12-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09F264

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09F264 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
B11-CON	F264-03T	8081A	SO	DELTA-BHC	J	3.1	5.2	UG/KG
				ENDOSULFAN II	J	6.6	10	UG/KG
				GAMMA-CHLORDANE	J	4.3	5.2	UG/KG
D12-CON	F264-01T			DELTA-BHC	J	3.6	5.2	UG/KG
				DIELDRIN	J	8.3	10	UG/KG
				ENDOSULFAN II	J	4.5	10	UG/KG

LDC #: 21264C3a

SDG #: 09F264

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/4/09

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 6/24/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	~~N~~ A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOIL

1	D12-CON	11	MBLK15	21		31	
2	B10-CON	12		22		32	
3	B11-CON	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264C3a
SDG #: 09F264

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]

METHOD: X GC __ HPLC

2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0~~ 20.0%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
	6/26/09	SF26004A	RTX-CLPEST	M	31	( )	MBLK1S, 3	J/UJ/A
				~~P~~	~~24~~	( )		↓
	6/29/09	SF29008B	RTX-CLPEST II	P	22	( )	1, 2	↓
						( )		
						( )		
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LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
30-Jun-2009	A14-CON	F312-01T	N	3550B	8081A	3
30-Jun-2009	A15-CON	F312-02T	N	3550B	8081A	3
30-Jun-2009	A16-CON	F312-03T	N	3550B	8081A	4
30-Jun-2009	E9-CON-2	F312-04T	N	3550B	8081A	3
30-Jun-2009	F9-CON-2	F312-05T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F312										
8081A	A14-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				ENDRIN ALDEHYDE	10	4.7J		J	UG/KG	
8081A	A15-CON	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				BETA-BHC	5.2	3.7J		J	UG/KG	
				ENDOSULFAN II	10	6.0J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	4.8J		J	UG/KG	
8081A	A16-CON	SO	N							
				4,4'-DDD	41	16J		J	UG/KG	
				ALPHA-CHLORDANE	20	39		J	UG/KG	
				BETA-BHC	20	13J		J	UG/KG	
				ENDOSULFAN II	41	28J		J	UG/KG	
				ENDRIN	41	28J		J	UG/KG	
				GAMMA-CHLORDANE	20	14J		J	UG/KG	
				METHOXYCHLOR	200	200J		J	UG/KG	
8081A	E9-CON-2	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				ENDRIN ALDEHYDE	10	8.0J		J	UG/KG	
8081A	F9-CON-2	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.2	3.8J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09F312

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09F312	A14-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F312	A15-CON	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F312	A16-CON	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09F312	E9-CON-2	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09F312	F9-CON-2	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09F312

Reasons for Qualified Results for Data Review Categories Not Assessed by ADR

Lab Reporting Batch: 09F312 **Lab ID: EMXT**

Project Number: 4-12821 **Project Name: AG FIELDS A6 PHASE BI**

Sample ID	Method	Analyte Name	CAS #	Detected Qualifier	Non Detected Qualifier	Reasons
A16-CON	8081A	4,4'-DDD	72-54-8	J		Professional Judgement
A16-CON	8081A	ALPHA-CHLORDANE	5103-71-9	J		Professional Judgement
A16-CON	8081A	ENDRIN	72-20-8	J		Professional Judgement
A16-CON	8081A	METHOXYCHLOR	72-43-5	J		Professional Judgement

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09F312 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A14-CON	F312-01T	8081A	SO	ENDRIN ALDEHYDE	J	4.7	10	UG/KG
A15-CON	F312-02T			BETA-BHC	J	3.7	5.2	UG/KG
				ENDOSULFAN II	J	6.0	10	UG/KG
				ENDRIN ALDEHYDE	J	9.4	10	UG/KG
				GAMMA-CHLORDANE	J	4.8	5.2	UG/KG
A16-CON	F312-03T			4,4'-DDD	J	16	41	UG/KG
				BETA-BHC	J	13	20	UG/KG
				ENDOSULFAN II	J	28	41	UG/KG
				ENDRIN	J	28	41	UG/KG
				GAMMA-CHLORDANE	J	14	20	UG/KG
E9-CON-2	F312-04T			ENDRIN ALDEHYDE	J	8.0	10	UG/KG
F9-CON-2	F312-05T			GAMMA-CHLORDANE	J	3.8	5.2	UG/KG

LDC #: 21264D3a

SDG #: 09F312

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR IV

Date: 8/5/09

Page: 1 of 1

Reviewer: ayc

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/30/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	Not reviewed for ADR validation.
VI.	Surrogate spikes	N	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation.
VIII.	Laboratory control samples	N	Not reviewed for ADR validation.
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	Not reviewed for ADR validation.
XII.	Compound quantitation and reported CRQLs	N	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	Not reviewed for ADR validation.
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

ALL SOIL

1	A14-CON	11	MBLKIS	21		31	
2	A15-CON	12		22		32	
3	A16-CON**	13		23		33	
4	E9-CON-2	14		24		34	
5	F9-CON-2	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264D3a
SDG #: 09F312

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ap
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0~~ 20%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
	7/6/09	5606007B	RTX-CLPEST II	M	24	( )	ALL + BLK	J / UJ / A
						( )		
						( )		
						( )		
						( )		
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						( )		

Enclosure II

EPA Level IV Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCB Camp Pendleton, Ag Fields A6 Phase BI

Collection Date: June 30, 2009

LDC Report Date: August 11, 2009

Matrix: Soil

Parameters: Chlorinated Pesticides

Validation Level: NFESC Level IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 09F312

Sample Identification

A16-CON

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
6/1/09	SG06007B	RTX-CLPII	4,4'-DDD	24	All samples in SDG 09F312	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

No field blanks were identified in this SDG.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
A16-CON	alpha-Chlordane	112	J (all detects)	A
	Endrin	73	J (all detects)	
	4,4'-DDD	61	J (all detects)	
	Methoxychlor	120	J (all detects)	

All compounds reported below the RL were qualified as follows:

Sample	Finding	Flag	A or P
All samples in SDG 09F312	All compounds reported below the RL	J (all detects)	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Data Qualification Summary - SDG 09F312

SDG	Sample	Compound	Flag	A or P	Reason
09F312	A16-CON	4,4'-DDD	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
09F312	A16-CON	alpha-Chlordane Endrin 4,4'-DDD Methoxychlor	J (all detects) J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs (RPD)
09F312	A16-CON	All compounds reported below the RL	J (all detects)	A	Compound quantitation and CRQLs

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 09F312

No Sample Data Qualified in this SDG

MCB Camp Pendleton, Ag Fields A6 Phase BI
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG 09F312

No Sample Data Qualified in this SDG

LDC #: 21264D3a

SDG #: 09F312

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~ IV

Date: 8/10/09

Page: 1 of 1

Reviewer: dm

2nd Reviewer: KJ

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/30/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	A	~~Not reviewed for ADR validation.~~
VI.	Surrogate spikes	A	Not reviewed for ADR validation.
VII.	Matrix spike/Matrix spike duplicates	N	Not reviewed for ADR validation. Client specified
VIII.	Laboratory control samples	A	~~Not reviewed for ADR validation.~~ LCS/LCSD
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	A	~~Not reviewed for ADR validation.~~
XII.	Compound quantitation and reported CRQLs	SW	Not reviewed for ADR validation.
XIII.	Overall assessment of data	A	~~Not reviewed for ADR validation.~~
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Soil

~~1~~	~~A14-CON~~	11	MBLK18	21		31	
~~2~~	~~A15-CON~~	12		22		32	
3	A16-CON**	13		23		33	
~~4~~	~~E9-CON-2~~	14		24		34	
~~5~~	~~F9-CON-2~~	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 21264D3a
SDG #: See cover

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/ECD instrument performance check				
Was the instrument performance found to be acceptable?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?		✓		
Did the initial calibration meet the curve fit acceptance criteria?			✓	
Were the RT windows properly established?	✓			
Were the required standard concentrations analyzed in the initial calibration?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ✓ %D or ____ %R	✓			
Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis?	✓			
Were endrin and 4,4'-DDT breakdowns ≤ 15%.0 for individual breakdown in the Evaluation mix standards?	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15~~ 20%.0 or percent recovieries ~~85-115~~ 80-120%?		✓		
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Were extract cleanup blanks analyzed with every batch requiring clean-up?			✓	
Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				

LDC #: 21264D3a
SDG #: See Cover

VALIDATION FINDINGS CHECKLIST

Reviewer: a
2nd Reviewer: N

Validation Area	Yes	No	NA	Findings/Comments
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		N		
Was a MS/MSD analyzed every 20 samples of each matrix?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264D3a
SDG #: Sea Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: dm

METHOD: ✓ GC __ HPLC

2nd Reviewer: K

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? ✓ %D or __ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies? 20

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤15.0%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD20 (Limit ≤15.0)	RT (limit)	Associated Samples	Qualifications
	6/1/09	SG06067B	RTX CLP II	M	24	( )	All + blk	J/UJ/A
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
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						( )		
						( )		
						( )		

LDC #: 21264D3a
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: du
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?
Y (N) N/A Did the percent difference of detected compounds between two columns./detectors ≤40%?
If no, please see findings below.

#	Compound Name	Sample ID	%RPD/%D Between Two Columns/Detectors Limit (≤ 40%)	Qualifications
	S	3	112	J det/A
	K	↓	73	↓
	M		61	
	P		120	

Comments: See sample calculation verification worksheet for recalculations

COMQUA%DNew.wpd

LDC #: 21264D3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: ch
2nd Reviewer: A

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
Average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where: A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported CF (20 std)	Recalculated CF (20 std)	Reported CF (initial)	Recalculated CF (intial)	Reported %RSD	Recalculated %RSD
1	1Cal	6/1/09	T	14605	14605	14167.7	14167.7	3.4	3.4
	RTX-CL Pest		O	7973	7973	8172.6	8172.6	6.6	6.6
2	1Cal		T	10324	10324	10499.6	10499.6	2.8	2.8
	RTX CLPest II		O	4831	4830	4978.2	4978.2	6.1	6.1
3									
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264D3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The continuing calibration percent difference (%D) values were recalculated for _____ using the following calculation:

Percent difference (%D) = 100 * (N - C)/N

Where: N = __ Initial Calibration Factor or __ Nominal Amount (ng)
C = __ Calibration Factor from Continuing Calibration Standard or __ Calculated Amount (ng)

Standard ID	Calibration Date/Time	Compound	Average CF/ CCV Conc	Reported CF/Conc CCV	Recalculated CF/Conc CCV	Reported %D	Recalculated %D
~~SG06007A~~	7/6/09	T	20.0	21.33	21.33	7	7
SG06007A		O	40.0	35.80	35.80	10	10
SG06007B		T	20.0	21.05	21.05	5	5
		O	40.0	32.21	32.21	19	19

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264D39
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: dyk
2nd reviewer: 1

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 3

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene	RTX CLPestII	40.0	33.0	83	83	0
Tetrachloro-m-xylene		↓				
Decachlorobiphenyl	RTX-CLPest		42.5	106	106	0
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Sample ID:

Surrogate	Column	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
Tetrachloro-m-xylene						
Tetrachloro-m-xylene						
Decachlorobiphenyl						
Decachlorobiphenyl						

Notes:

LDC #: 21264D3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Concentration

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboratory control sample percent recovery; LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS1S / LCD1S

Compound	Spike Added (µg/kg)		Spiked Sample Concentration (µg/kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
~~gamma-BHC~~ T	13.3	13.3	14.8	14.3	111	111	107	108	3	3
4,4'-DDT	↓	↓	13.7	13.3	103	103	100	100	3	3
Aroclor 1260										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 21264D3a
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Example:

Sample I.D. 3 T :

Conc. = (419.14 × 10. × 10) / (10499.6 × 30.00 × 0.977)

= 13.62 µg/Kg

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Note:

C:\WPDOCS\WRK\PEST\RECALC.SS

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
01-Jul-2009	A12-CON	G004-01I	N	3550B	8081A	3
01-Jul-2009	A12-CONMS	G004-01M	MS	3550B	8081A	3
01-Jul-2009	A12-CONMSD	G004-01S	MSD	3550B	8081A	3
01-Jul-2009	A12-CON	G004-01T	N	3550B	8081A	3
01-Jul-2009	A13-CON	G004-02I	N	3550B	8081A	3
01-Jul-2009	A13-CON	G004-02T	N	3550B	8081A	3
01-Jul-2009	B12-CON	G004-03T	N	3550B	8081A	3
01-Jul-2009	SS-A12YA	G004-05	N	3520C	8081A-STLC	3
01-Jul-2009	SS-A12YA	G004-05	N	3520C	8081A-TCLP	3
01-Jul-2009	SS-A12YA	G004-05T	N	3550B	8081A	3
01-Jul-2009	SS-A12YB	G004-04	N	3520C	8081A-STLC	3
01-Jul-2009	SS-A12YB	G004-04	N	3520C	8081A-TCLP	3
01-Jul-2009	SS-A12YB	G004-04T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G004										
8081A	B12-CON	SO	N							
				DELTA-BHC	5.2	2.6J		J	UG/KG	
				DIELDRIN	10	8.1J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	2.4J		J	UG/KG	
				TOXAPHENE	130	120J		J	UG/KG	
8081A	SS-A12YA	AQ	N							
				BETA-BHC	5.2	2.2J		J	UG/KG	
8081A	SS-A12YB	AQ	N							
				GAMMA-BHC (LINDANE)	5.2	4.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	3.2J		J	UG/KG	
8081A-STLC	SS-A12YA	AQ	N							
				ALPHA-BHC	1.0	1.0U		UJ	UG/L	
				DELTA-BHC	1.0	1.0U		UJ	UG/L	
				DIELDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	SS-A12YB	AQ	N							
				ALPHA-BHC	1.0	0.22J		J	UG/L	
				BETA-BHC	1.0	0.74J		J	UG/L	
				DELTA-BHC	1.0	1.0U		UJ	UG/L	
				DIELDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.34J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	SS-A12YA	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G004										
8081A-TCLP	SS-A12YB	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09G004

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G004	SS-A12YA	8081A-STLC	319846		J	ALPHA-BHC	Continuing calibration percent difference
09G004	SS-A12YA	8081A-STLC	319868		J	DELTA-BHC	Continuing calibration percent difference
09G004	SS-A12YA	8081A-STLC	60571		J	DIELDRIN	Continuing calibration percent difference
09G004	SS-A12YA	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G004	SS-A12YA	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G004	SS-A12YA	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G004	SS-A12YA	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G004	SS-A12YA	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G004	SS-A12YA	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G004	SS-A12YB	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G004	SS-A12YB	8081A-STLC	319868		J	DELTA-BHC	Continuing calibration percent difference
09G004	SS-A12YB	8081A-STLC	60571		J	DIELDRIN	Continuing calibration percent difference
09G004	SS-A12YB	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G004	SS-A12YB	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G004	SS-A12YB	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G004	SS-A12YB	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G004	SS-A12YB	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G004	SS-A12YB	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09G004

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G004 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A12-CON	G004-01I	8081A	SO	4,4'-DDD	J	29	41	UG/KG
				BETA-BHC	J	8.4	21	UG/KG
				ENDOSULFAN II	J	17	41	UG/KG
	G004-01T			ENDOSULFAN SULFATE	J	4.1	10	UG/KG
A13-CON	G004-02I			4,4'-DDD	J	54	82	UG/KG
	G004-02T			ALPHA-CHLORDANE	J	2.9	5.1	UG/KG
	G004-02I			ENDOSULFAN II	J	37	82	UG/KG
				ENDRIN ALDEHYDE	J	59	82	UG/KG
B12-CON	G004-03T			DELTA-BHC	J	2.6	5.2	UG/KG
				DIELDRIN	J	8.1	10	UG/KG
				GAMMA-CHLORDANE	J	2.4	5.2	UG/KG
				TOXAPHENE	J	120	130	UG/KG
SS-A12YA	G004-05T			BETA-BHC	J	2.2	5.2	UG/KG
SS-A12YB	G004-04T			GAMMA-BHC (LINDANE)	J	4.4	5.2	UG/KG
				GAMMA-CHLORDANE	J	3.2	5.2	UG/KG
	G004-04	8081A-STLC	AQ	ALPHA-BHC	J	0.22	1.0	UG/L
				BETA-BHC	J	0.74	1.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.34	1.0	UG/L

LDC #: 21264E3a

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/5/09

SDG #: 09G004

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: an

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 7/1/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	~~A~~ SW	
XIII.	Overall assessment of data	~~A~~ SW	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOIL

1	A12-CON	11	SS-A12YA-TCLP	21	MBLK15	31	
2	A12-CONDL	12	A12-CONMS	22		32	
3	A13-CON	13	A12-CONMSD	23		33	
4	A13-CONDL	14		24		34	
5	B12-CON	15		25		35	
6	SS-A12YB	16		26		36	
7	SS-A12YA	17		27		37	
8	SS-A12YB-STCLC	18		28		38	
9	SS-A12YA-STLC	19		29		39	
10	SS-A12YB-TCLP	20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264E3a
SDG #: 096004

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: aje
2nd Reviewer: a

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies? 20.0
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0~~20%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD20 (Limit ≤ ~~15.0~~)	RT (limit)	Associated Samples	Qualifications
	7/9/09	SG08055B	RTX-CLP~~ESTC~~	A	24	( )	~~8-11~~ + MBLK1S	J/UJ/A
				D	31	( )	8-11	
				C	22	( )		
				G	34	( )		
				K	31	( )		
				I	22	( )		
						( )		
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CONCALNew.wpd

LDC #: 21264E3a
SDG #: 096004

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only
Y N (N/A) Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N (N/A) Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Sample ID ~~Compound Name~~	Finding	Associated Samples	Qualifications
	1	U, O > Cal Range	1	J Dets/A
				↓
	3	J, O, U > Cal Range	3	↓

Comments: See sample calculation verification worksheet for recalculations

LDC #: 21264E3a
SDG #: 096004

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC (EPA SW846 8081A)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

(Y) N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	~~Finding~~ Compound	Associated Samples	Qualifications
		1	U, O	1	R/A
		2	All except U, O	2	
		3	J, O, U	3	
		4	All Except J, O, U	4	

Comments: _____

V:\Validation Worksheets\GC\OVR.GC

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Jul-2009	A13X-3	G017-01	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-3	G017-01	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-3	G017-01I	N	3550B	8081A	3
02-Jul-2009	A13X-3	G017-01T	N	3550B	8081A	3
02-Jul-2009	A13X-4	G017-02	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-4	G017-02	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-4	G017-02I	N	3550B	8081A	3
02-Jul-2009	A13X-4	G017-02T	N	3550B	8081A	3
02-Jul-2009	A13X-5	G017-03	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-5	G017-03	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-5	G017-03I	N	3550B	8081A	3
02-Jul-2009	A13X-5	G017-03T	N	3550B	8081A	3
02-Jul-2009	A13X-6	G017-04	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-6	G017-04	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-6	G017-04I	N	3550B	8081A	3
02-Jul-2009	A13X-6	G017-04T	N	3550B	8081A	3
02-Jul-2009	A13X-7	G017-05	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-7	G017-05	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-7	G017-05I	N	3550B	8081A	3
02-Jul-2009	A13X-7	G017-05T	N	3550B	8081A	3
02-Jul-2009	A13X-8	G017-06	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-8	G017-06	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-8	G017-06I	N	3550B	8081A	3
02-Jul-2009	A13X-8	G017-06T	N	3550B	8081A	3
02-Jul-2009	A13X-9	G017-07	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-9	G017-07	N	3520C	8081A-TCLP	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Jul-2009	A13X-9	G017-07I	N	3550B	8081A	3
02-Jul-2009	A13X-9	G017-07T	N	3550B	8081A	3
02-Jul-2009	A13X-10	G017-08	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-10	G017-08	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-10	G017-08I	N	3550B	8081A	3
02-Jul-2009	A13X-10	G017-08T	N	3550B	8081A	3
02-Jul-2009	A13X-11	G017-09	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-11	G017-09	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-11	G017-09I	N	3550B	8081A	3
02-Jul-2009	A13X-11	G017-09T	N	3550B	8081A	3
02-Jul-2009	A13X-12	G017-10	N	3520C	8081A-STLC	3
02-Jul-2009	A13X-12	G017-10	N	3520C	8081A-TCLP	3
02-Jul-2009	A13X-12	G017-10I	N	3550B	8081A	3
02-Jul-2009	A13X-12	G017-10T	N	3550B	8081A	3
02-Jul-2009	A12Y-C	G017-11	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-C	G017-11	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-C	G017-11I	N	3550B	8081A	3
02-Jul-2009	A12Y-C	G017-11T	N	3550B	8081A	3
02-Jul-2009	A12Y-D	G017-12	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-D	G017-12	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-D	G017-12I	N	3550B	8081A	3
02-Jul-2009	A12Y-D	G017-12T	N	3550B	8081A	3
02-Jul-2009	A12Y-E	G017-13	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-E	G017-13	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-E	G017-13I	N	3550B	8081A	3
02-Jul-2009	A12Y-E	G017-13T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Jul-2009	A12Y-F	G017-14	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-F	G017-14	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-F	G017-14I	N	3550B	8081A	3
02-Jul-2009	A12Y-F	G017-14T	N	3550B	8081A	3
02-Jul-2009	A12Y-G	G017-15	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-G	G017-15	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-G	G017-15I	N	3550B	8081A	3
02-Jul-2009	A12Y-G	G017-15T	N	3550B	8081A	3
02-Jul-2009	A12Y-H	G017-16	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-H	G017-16	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-H	G017-16I	N	3550B	8081A	3
02-Jul-2009	A12Y-H	G017-16T	N	3550B	8081A	3
02-Jul-2009	A12Y-I	G017-17	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-I	G017-17	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-I	G017-17I	N	3550B	8081A	3
02-Jul-2009	A12Y-I	G017-17T	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-I	G017-17T	N	3550B	8081A	3
02-Jul-2009	A12Y-J	G017-18	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-J	G017-18	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-J	G017-18I	N	3550B	8081A	3
02-Jul-2009	A12Y-J	G017-18T	N	3550B	8081A	3
02-Jul-2009	A12Y-K	G017-19	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-K	G017-19	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-K	G017-19I	N	3550B	8081A	3
02-Jul-2009	A12Y-K	G017-19T	N	3550B	8081A	3
02-Jul-2009	A12Y-L	G017-20	N	3520C	8081A-STLC	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Jul-2009	A12Y-L	G017-20	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-L	G017-20I	N	3550B	8081A	3
02-Jul-2009	A12Y-L	G017-20T	N	3550B	8081A	3
02-Jul-2009	A12Y-M	G017-21	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-M	G017-21	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-M	G017-21I	N	3550B	8081A	3
02-Jul-2009	A12Y-M	G017-21T	N	3550B	8081A	3
02-Jul-2009	A12Y-N	G017-22	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-N	G017-22	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-N	G017-22I	N	3550B	8081A	3
02-Jul-2009	A12Y-N	G017-22T	N	3550B	8081A	3
02-Jul-2009	A12Y-O	G017-23	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-O	G017-23	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-O	G017-23I	N	3550B	8081A	3
02-Jul-2009	A12Y-O	G017-23T	N	3550B	8081A	3
02-Jul-2009	A12Y-P	G017-24	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-P	G017-24	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-P	G017-24I	N	3550B	8081A	3
02-Jul-2009	A12Y-P	G017-24T	N	3550B	8081A	3
02-Jul-2009	A12Y-Q	G017-25	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-Q	G017-25	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-Q	G017-25I	N	3550B	8081A	3
02-Jul-2009	A12Y-Q	G017-25T	N	3550B	8081A	3
02-Jul-2009	A12Y-R	G017-26	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-R	G017-26	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-R	G017-26I	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
02-Jul-2009	A12Y-R	G017-26T	N	3550B	8081A	3
02-Jul-2009	A12Y-S	G017-27	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-S	G017-27	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-S	G017-27I	N	3550B	8081A	3
02-Jul-2009	A12Y-S	G017-27T	N	3550B	8081A	3
02-Jul-2009	A12Y-T	G017-28	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-T	G017-28	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-T	G017-28T	N	3550B	8081A	3
02-Jul-2009	A12Y-U	G017-29	N	3520C	8081A-STLC	3
02-Jul-2009	A12Y-U	G017-29	N	3520C	8081A-TCLP	3
02-Jul-2009	A12Y-U	G017-29I	N	3550B	8081A	3
02-Jul-2009	A12Y-U	G017-29T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A12Y-C	AQ	N							
				4,4'-DDD	10	13		J	UG/KG	
				ALDRIN	5.1	2.9J		J	UG/KG	
				DIELDRIN	10	130		J	UG/KG	
				ENDRIN ALDEHYDE	10	6.4J		J	UG/KG	
				ENDRIN KETONE	10	9.9J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	2.7J		J	UG/KG	
				METHOXYCHLOR	51	51U		UJ	UG/KG	
8081A	A12Y-D	AQ	N							
				4,4'-DDD	10	7.3J		J	UG/KG	
				4,4'-DDT	10	130		J	UG/KG	
				DIELDRIN	10	72		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	51U		UJ	UG/KG	
8081A	A12Y-E	AQ	N							
				4,4'-DDD	10	6.8J		J	UG/KG	
				4,4'-DDT	10	140		J	UG/KG	
				DIELDRIN	10	61		J	UG/KG	
				ENDOSULFAN SULFATE	10	6.2J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.2J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	1.9J		J	UG/KG	
				METHOXYCHLOR	51	19J		J	UG/KG	
8081A	A12Y-F	AQ	N							
				4,4'-DDD	10	9.7J		J	UG/KG	
				ALPHA-CHLORDANE	5.1	1.6J		J	UG/KG	
				DIELDRIN	10	87		J	UG/KG	
				GAMMA-BHC (LINDANE)	5.1	4.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.3J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	1.6J		J	UG/KG	
				METHOXYCHLOR	51	15J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A12Y-G	AQ	N							
				4,4'-DDD	10	33		J	UG/KG	
				ALDRIN	5.2	2.7J		J	UG/KG	
				DIELDRIN	10	130		J	UG/KG	
				ENDOSULFAN SULFATE	10	5.3J		J	UG/KG	
				ENDRIN KETONE	10	3.5J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	2.0J		J	UG/KG	
				METHOXYCHLOR	52	20J		J	UG/KG	
8081A	A12Y-H	AQ	N							
				4,4'-DDD	11	11U		UJ	UG/KG	
				4,4'-DDT	11	73		J	UG/KG	
				DIELDRIN	11	42		J	UG/KG	
				ENDOSULFAN II	11	8.4J		J	UG/KG	
				ENDRIN ALDEHYDE	11	5.6J		J	UG/KG	
				GAMMA-CHLORDANE	5.3	5.0J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.3	5.3U		UJ	UG/KG	
				METHOXYCHLOR	53	53U		UJ	UG/KG	
8081A	A12Y-I	AQ	N							
				4,4'-DDD	10	94		J	UG/KG	
				ENDOSULFAN I	5.2	3.8J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	4.7J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	4.4J		J	UG/KG	
				METHOXYCHLOR	52	44J		J	UG/KG	
8081A	A12Y-J	AQ	N							
				4,4'-DDD	10	64		J	UG/KG	
				ENDOSULFAN SULFATE	10	7.0J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	2.6J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	5.2U		UJ	UG/KG	
				METHOXYCHLOR	52	110		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A12Y-K	AQ	N							
				4,4'-DDD	10	10J		J	UG/KG	
				4,4'-DDT	10	140		J	UG/KG	
				DIELDRIN	10	86		J	UG/KG	
				ENDOSULFAN II	10	14		J	UG/KG	
				ENDOSULFAN SULFATE	10	4.3J		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.5J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	3.3J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	5.2U		UJ	UG/KG	
				METHOXYCHLOR	52	16J		J	UG/KG	
8081A	A12Y-L	AQ	N							
				4,4'-DDD	10	11		J	UG/KG	
				DIELDRIN	10	67		J	UG/KG	
				ENDRIN ALDEHYDE	10	13		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.8J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	78		J	UG/KG	
8081A	A12Y-M	AQ	N							
				4,4'-DDD	10	41		J	UG/KG	
				ALDRIN	5.1	1.5J		J	UG/KG	
				DIELDRIN	10	60		J	UG/KG	
				ENDOSULFAN II	10	14		J	UG/KG	
				ENDOSULFAN SULFATE	10	5.0J		J	UG/KG	
				ENDRIN ALDEHYDE	10	11		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.5J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	1.9J		J	UG/KG	
				METHOXYCHLOR	51	19J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A12Y-N	AQ	N							
				4,4'-DDD	11	22		J	UG/KG	
				4,4'-DDT	11	110		J	UG/KG	
				DIELDRIN	11	69		J	UG/KG	
				ENDOSULFAN II	11	10J		J	UG/KG	
				ENDRIN ALDEHYDE	11	8.6J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.3	5.3U		UJ	UG/KG	
				METHOXYCHLOR	53	53U		UJ	UG/KG	
8081A	A12Y-O	AQ	N							
				4,4'-DDD	10	46		J	UG/KG	
				ALPHA-CHLORDANE	5.1	1.9J		J	UG/KG	
				DIELDRIN	10	64		J	UG/KG	
				ENDOSULFAN II	10	11		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.3J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.5J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	14J		J	UG/KG	
8081A	A12Y-P	AQ	N							
				4,4'-DDD	10	39		J	UG/KG	
				4,4'-DDT	10	140		J	UG/KG	
				ALDRIN	5.2	5.1J		J	UG/KG	
				ALPHA-CHLORDANE	5.2	1.7J		J	UG/KG	
				DIELDRIN	10	79		J	UG/KG	
				ENDOSULFAN II	10	14		J	UG/KG	
				ENDRIN ALDEHYDE	10	9.4J		J	UG/KG	
				GAMMA-CHLORDANE	5.2	2.8J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	5.2U		UJ	UG/KG	
				METHOXYCHLOR	52	14J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A12Y-Q	AQ	N							
				4,4'-DDD	10	55		J	UG/KG	
				ALPHA-BHC	5.1	2.9J		J	UG/KG	
				DIELDRIN	81	530		J	UG/KG	
				ENDOSULFAN II	10	8.6J		J	UG/KG	
				ENDRIN ALDEHYDE	10	5.6J		J	UG/KG	
				ENDRIN KETONE	10	9.6J		J	UG/KG	
				GAMMA-BHC (LINDANE)	5.1	4.7J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	2.4J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	51U		UJ	UG/KG	
8081A	A12Y-R	AQ	N							
				4,4'-DDD	10	110		J	UG/KG	
				ALPHA-BHC	5.1	4.8J		J	UG/KG	
				DIELDRIN	10	100		J	UG/KG	
				ENDOSULFAN II	10	32		J	UG/KG	
				ENDRIN ALDEHYDE	10	40		J	UG/KG	
				GAMMA-CHLORDANE	5.1	1.6J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	4.2J		J	UG/KG	
				METHOXYCHLOR	51	84		J	UG/KG	
8081A	A12Y-S	AQ	N							
				4,4'-DDD	10	47		J	UG/KG	
				DIELDRIN	10	110		J	UG/KG	
				ENDOSULFAN II	10	14		J	UG/KG	
				ENDOSULFAN SULFATE	10	4.4J		J	UG/KG	
				ENDRIN ALDEHYDE	10	11		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	3.2J		J	UG/KG	
				METHOXYCHLOR	52	17J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A12Y-T	AQ	N							
				ALPHA-BHC	5.2	5.2U		UJ	UG/KG	
				DELTA-BHC	5.2	4.8J		J	UG/KG	
				DIELDRIN	10	33		J	UG/KG	
				ENDOSULFAN I	5.2	5.2U		UJ	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.2	5.2U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	5.2U		UJ	UG/KG	
8081A	A12Y-U	AQ	N							
				4,4'-DDD	10	32		J	UG/KG	
				4,4'-DDT	10	120		J	UG/KG	
				ALPHA-BHC	5.1	4.2J		J	UG/KG	
				ALPHA-CHLORDANE	5.1	2.5J		J	UG/KG	
				DIELDRIN	10	75		J	UG/KG	
				ENDOSULFAN II	10	16		J	UG/KG	
				ENDOSULFAN SULFATE	10	4.7J		J	UG/KG	
				HEPTACHLOR	5.1	5.1U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	17J		J	UG/KG	
8081A	A13X-10	AQ	N							
				4,4'-DDD	10	26		J	UG/KG	
				DIELDRIN	10	51		J	UG/KG	
				ENDOSULFAN II	10	49		J	UG/KG	
				ENDRIN ALDEHYDE	10	4.5J		J	UG/KG	
				GAMMA-CHLORDANE	5.1	3.5J		J	UG/KG	
				HEPTACHLOR	5.1	5.1U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	51U		UJ	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A13X-11	AQ	N							
				4,4'-DDD	10	25		J	UG/KG	
				ENDOSULFAN SULFATE	10	6.9J		J	UG/KG	
				ENDRIN	10	3.1J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	8.0		J	UG/KG	
				METHOXYCHLOR	51	14J		J	UG/KG	
8081A	A13X-12	AQ	N							
				4,4'-DDD	11	21		J	UG/KG	
				ALDRIN	5.4	4.3J		J	UG/KG	
				ENDRIN ALDEHYDE	11	7.1J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.4	5.4U		UJ	UG/KG	
				METHOXYCHLOR	54	54U		UJ	UG/KG	
8081A	A13X-3	AQ	N							
				4,4'-DDD	11	6.9J		J	UG/KG	
				ENDOSULFAN SULFATE	11	5.7J		J	UG/KG	
				ENDRIN KETONE	11	11U		UJ	UG/KG	
				METHOXYCHLOR	54	11J		J	UG/KG	
8081A	A13X-4	AQ	N							
				4,4'-DDD	10	17		J	UG/KG	
				ENDRIN	10	4.4J		J	UG/KG	
				ENDRIN KETONE	10	10U		UJ	UG/KG	
8081A	A13X-5	AQ	N							
				4,4'-DDD	11	11J		J	UG/KG	
				ENDRIN KETONE	11	11U		UJ	UG/KG	
8081A	A13X-6	AQ	N							
				4,4'-DDD	11	15		J	UG/KG	
				ENDOSULFAN SULFATE	11	6.2J		J	UG/KG	
				ENDRIN	11	3.7J		J	UG/KG	
				ENDRIN KETONE	11	24		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A	A13X-7	AQ	N							
				4,4'-DDD	10	21		J	UG/KG	
				ENDOSULFAN SULFATE	10	5.6J		J	UG/KG	
				ENDRIN KETONE	10	10U		UJ	UG/KG	
				METHOXYCHLOR	52	12J		J	UG/KG	
8081A	A13X-8	AQ	N							
				4,4'-DDD	10	12		J	UG/KG	
				ENDRIN KETONE	10	16		J	UG/KG	
				GAMMA-CHLORDANE	5.1	4.7J		J	UG/KG	
8081A	A13X-9	AQ	N							
				4,4'-DDD	10	21		J	UG/KG	
				4,4'-DDE	41	280		J	UG/KG	
				4,4'-DDT	41	380		J	UG/KG	
				BETA-BHC	20	100		J	UG/KG	
				DIELDRIN	41	170		J	UG/KG	
				ENDOSULFAN I	5.1	4.9J		J	UG/KG	
				ENDRIN KETONE	10	10U		UJ	UG/KG	
				TOXAPHENE	510	2100		J	UG/KG	
8081A-STLC	A12Y-C	AQ	N							
				ALPHA-BHC	1.0	0.32J		J	UG/L	
				DIELDRIN	2.0	0.75J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.28J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A12Y-D	AQ	N							
				ALPHA-BHC	1.0	0.94J		J	UG/L	
				DELTA-BHC	1.0	0.75J		J	UG/L	
				DIELDRIN	2.0	0.57J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.40J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-E	AQ	N							
				ALPHA-BHC	1.0	0.66J		J	UG/L	
				DELTA-BHC	1.0	0.69J		J	UG/L	
				DIELDRIN	2.0	0.33J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.36J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-F	AQ	N							
				ALPHA-BHC	1.0	0.40J		J	UG/L	
				DIELDRIN	2.0	0.40J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.24J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A12Y-G	AQ	N							
				ALPHA-BHC	1.0	0.95J		J	UG/L	
				DELTA-BHC	1.0	0.61J		J	UG/L	
				DIELDRIN	2.0	0.93J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.40J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-H	AQ	N							
				ALPHA-BHC	1.0	1.0U		UJ	UG/L	
				DIELDRIN	2.0	0.22J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-I	AQ	N							
				ALPHA-BHC	1.0	4.2		J	UG/L	
				DIELDRIN	2.0	0.56J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.1		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A12Y-J	AQ	N							
				ALPHA-BHC	1.0	3.1		J	UG/L	
				DELTA-BHC	1.0	0.92J		J	UG/L	
				DIELDRIN	2.0	0.71J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.64J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-K	AQ	N							
				ALPHA-BHC	1.0	1.8		J	UG/L	
				DIELDRIN	2.0	0.47J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.55J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-L	AQ	N							
				ALPHA-BHC	1.0	0.62J		J	UG/L	
				DELTA-BHC	1.0	0.60J		J	UG/L	
				DIELDRIN	2.0	0.43J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.36J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-M	AQ	N							
				DELTA-BHC	1.0	0.74J		J	UG/L	
				DIELDRIN	2.0	0.24J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	2.3		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A12Y-N	AQ	N							
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-O	AQ	N							
				ALPHA-BHC	1.0	0.87J		J	UG/L	
				DIELDRIN	2.0	0.38J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.52J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-P	AQ	N							
				ALPHA-BHC	1.0	0.77J		J	UG/L	
				DELTA-BHC	1.0	0.93J		J	UG/L	
				DIELDRIN	2.0	0.47J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.53J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-Q	AQ	N							
				4,4'-DDT	2.0	0.97J		J	UG/L	
				BETA-BHC	1.0	0.61J		J	UG/L	
				DIELDRIN	2.0	1.8J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A12Y-R	AQ	N							
				4,4'-DDT	2.0	0.54J		J	UG/L	
				ALPHA-BHC	1.0	0.30J		J	UG/L	
				DELTA-BHC	1.0	0.46J		J	UG/L	
				DIELDRIN	2.0	0.59J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				ENDRIN KETONE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-S	AQ	N							
				ALPHA-BHC	1.0	0.28J		J	UG/L	
				BETA-BHC	1.0	0.95J		J	UG/L	
				DIELDRIN	2.0	2.0U		UJ	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				ENDRIN KETONE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A12Y-T	AQ	N							
				ALPHA-BHC	1.0	1.0U		UJ	UG/L	
				DIELDRIN	2.0	2.0U		UJ	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				ENDRIN KETONE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A12Y-U	AQ	N							
				ALPHA-BHC	1.0	0.51J		J	UG/L	
				DELTA-BHC	1.0	0.62J		J	UG/L	
				DIELDRIN	2.0	0.39J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				ENDRIN KETONE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.26J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A13X-10	AQ	N							
				4,4'-DDD	2.0	0.45J		J	UG/L	
				DELTA-BHC	1.0	0.22J		J	UG/L	
				DIELDRIN	2.0	0.63J		J	UG/L	
				ENDOSULFAN II	2.0	0.52J		J	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A13X-11	AQ	N							
				BETA-BHC	1.0	0.54J		J	UG/L	
				DIELDRIN	2.0	0.65J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A13X-12	AQ	N							
				4,4'-DDD	2.0	1.5J		J	UG/L	
				ALPHA-BHC	1.0	1.0U		UJ	UG/L	
				BETA-BHC	1.0	0.39J		J	UG/L	
				DELTA-BHC	1.0	0.63J		J	UG/L	
				DIELDRIN	2.0	0.86J		J	UG/L	
				ENDOSULFAN I	1.0	1.0U		UJ	UG/L	
				ENDOSULFAN II	2.0	0.98J		J	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A13X-3	AQ	N							
				DIELDRIN	2.0	0.61J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A13X-4	AQ	N							
				DIELDRIN	2.0	0.41J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-STLC	A13X-5	AQ	N							
				BETA-BHC	1.0	0.87J		J	UG/L	
				DIELDRIN	2.0	1.3J		J	UG/L	
				ENDOSULFAN II	2.0	0.25J		J	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A13X-6	AQ	N							
				DIELDRIN	2.0	1.1J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A13X-7	AQ	N							
				BETA-BHC	1.0	0.39J		J	UG/L	
				DIELDRIN	2.0	0.83J		J	UG/L	
				ENDOSULFAN II	2.0	2.0U		UJ	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-STLC	A13X-8	AQ	N							
				BETA-BHC	1.0	0.67J		J	UG/L	
				DELTA-BHC	1.0	0.66J		J	UG/L	
				DIELDRIN	2.0	0.92J		J	UG/L	
				ENDOSULFAN II	2.0	0.26J		J	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Overall Qualified Results

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SDG: 09G017										
8081A-STLC	A13X-9	AQ	N							
				DIELDRIN	2.0	0.35J		J	UG/L	
				ENDOSULFAN II	2.0	1.0J		J	UG/L	
				ENDRIN	2.0	2.0U		UJ	UG/L	
				ENDRIN ALDEHYDE	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-C	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-D	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.22J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-E	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-F	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-G	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.21J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-H	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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SDG: 09G017										
8081A-TCLP	A12Y-I	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.71J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-J	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.32J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-K	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-L	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-M	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	3.7		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-N	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-O	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.36J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

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Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-TCLP	A12Y-P	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	0.22J		J	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-Q	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-R	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-S	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-T	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A12Y-U	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-10	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G017										
8081A-TCLP	A13X-11	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-12	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-3	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-4	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-5	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-6	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-7	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-8	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	
8081A-TCLP	A13X-9	AQ	N							
				ENDRIN	2.0	2.0U		UJ	UG/L	
				GAMMA-BHC (LINDANE)	1.0	1.0U		UJ	UG/L	
				HEPTACHLOR EPOXIDE	1.0	1.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-C	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-C	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-C	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-C	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-C	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-C	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-C	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-C	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-C	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-C	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-C	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-C	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-C	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-C	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-D	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-D	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G017	A12Y-D	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-D	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-D	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-D	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-D	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-D	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-D	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-D	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-D	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-D	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-D	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-D	8081A-TCLP	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-D	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-E	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-E	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G017	A12Y-E	8081A	60571	J		DIELDRIN	Continuing calibration percent difference

Insight

Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-E	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-E	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-E	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-E	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-E	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-E	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-E	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-E	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-E	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-E	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-E	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-E	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-F	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-F	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-F	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-F	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-F	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-F	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-F	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-F	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-F	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-F	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-F	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-F	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-F	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-F	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-G	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-G	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-G	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-G	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-G	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-G	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference

Insight

Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-G	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-G	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-G	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-G	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-G	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-G	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-G	8081A-TCLP	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-G	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-H	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-H	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G017	A12Y-H	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-H	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-H	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-H	8081A-STLC	319846		J	ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-H	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-H	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-H	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-H	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-H	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-H	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-H	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-H	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-H	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-I	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-I	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-I	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-I	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-I	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-I	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-I	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-I	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-I	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference

Insight
Reason for Qualified Results
SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-I	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-I	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-I	8081A-TCLP	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-I	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-J	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-J	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-J	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-J	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-J	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-J	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-J	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-J	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-J	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-J	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-J	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-J	8081A-TCLP	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-J	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-K	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-K	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G017	A12Y-K	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-K	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-K	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-K	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-K	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-K	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-K	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-K	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-K	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-K	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-K	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-K	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-K	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference

Insight

Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-K	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-K	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-L	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-L	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-L	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-L	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-L	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-L	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-L	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-L	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-L	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-L	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-L	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-L	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-M	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-M	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-M	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-M	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-M	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-M	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-M	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-M	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-M	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-M	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-M	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-M	8081A-TCLP	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-M	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-N	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-N	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G017	A12Y-N	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-N	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-N	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference

Insight

Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-N	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-N	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-N	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-N	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-N	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-N	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-N	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-N	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-N	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-O	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-O	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-O	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-O	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-O	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-O	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-O	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-O	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-O	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-O	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-O	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-O	8081A-TCLP	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-O	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-P	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-P	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G017	A12Y-P	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-P	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-P	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-P	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-P	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-P	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-P	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-P	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference

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Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-P	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-P	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-P	8081A-TCLP	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-P	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-Q	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-Q	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-Q	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-Q	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-Q	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-Q	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-Q	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-Q	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-Q	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-Q	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-Q	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-Q	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-Q	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-R	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-R	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-R	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-R	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-R	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-R	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-R	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-R	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference

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Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-R	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-R	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-S	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-S	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-S	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-S	8081A	7421934	J		ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-S	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-S	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	60571		J	DIELDRIN	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-S	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-S	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-S	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-S	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-T	8081A	319846		J	ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-T	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-T	8081A	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A12Y-T	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-T	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-T	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-T	8081A-STLC	319846		J	ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-T	8081A-STLC	60571		J	DIELDRIN	Continuing calibration percent difference
09G017	A12Y-T	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-T	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-T	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-T	8081A-STLC	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A12Y-T	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference

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Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A12Y-T	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-T	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-T	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-T	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-U	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A12Y-U	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G017	A12Y-U	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-U	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-U	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09G017	A12Y-U	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-U	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	319846	J		ALPHA-BHC	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-U	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A12Y-U	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A12Y-U	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A12Y-U	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-10	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-10	8081A	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A13X-10	8081A	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-10	8081A	76448		J	HEPTACHLOR	Continuing calibration percent difference
09G017	A13X-10	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-10	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09G017	A13X-10	8081A-STLC	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-10	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-10	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-10	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference

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Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A13X-10	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-10	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-10	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-10	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-11	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-11	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-11	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09G017	A13X-11	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-11	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-11	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-11	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-11	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-11	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-11	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-11	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-12	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-12	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-12	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09G017	A13X-12	8081A-STLC	319846		J	ALPHA-BHC	Continuing calibration percent difference
09G017	A13X-12	8081A-STLC	60571	J		DIELDRIN	Continuing calibration percent difference
09G017	A13X-12	8081A-STLC	959988		J	ENDOSULFAN I	Continuing calibration percent difference
09G017	A13X-12	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-12	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-12	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-12	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-12	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-12	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-12	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-3	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-3	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A13X-3	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-3	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference

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Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A13X-3	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-3	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-3	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-3	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-3	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-4	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-4	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A13X-4	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-4	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-4	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-4	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-4	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-4	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-4	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-5	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-5	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A13X-5	8081A-STLC	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-5	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-5	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-5	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-5	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-5	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-5	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-6	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-6	8081A	53494705	J		ENDRIN KETONE	Continuing calibration percent difference
09G017	A13X-6	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-6	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-6	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-6	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-6	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-6	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-6	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference

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Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A13X-7	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-7	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A13X-7	8081A-STLC	33213659		J	ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-7	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-7	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-7	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-7	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-7	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-7	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-8	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-8	8081A	53494705	J		ENDRIN KETONE	Continuing calibration percent difference
09G017	A13X-8	8081A-STLC	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-8	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-8	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-8	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-8	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-8	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-8	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-9	8081A	72548	J		4,4'-DDD	Continuing calibration percent difference
09G017	A13X-9	8081A	72559	J		4,4'-DDE	Surrogate recovery
09G017	A13X-9	8081A	50293	J		4,4'-DDT	Surrogate recovery
09G017	A13X-9	8081A	319857	J		BETA-BHC	Surrogate recovery
09G017	A13X-9	8081A	60571	J		DIELDRIN	Surrogate recovery
09G017	A13X-9	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G017	A13X-9	8081A	8001352	J		TOXAPHENE	Surrogate recovery
09G017	A13X-9	8081A-STLC	33213659	J		ENDOSULFAN II	Continuing calibration percent difference
09G017	A13X-9	8081A-STLC	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-9	8081A-STLC	7421934		J	ENDRIN ALDEHYDE	Continuing calibration percent difference
09G017	A13X-9	8081A-STLC	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G017	A13X-9	8081A-STLC	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G017	A13X-9	8081A-TCLP	72208		J	ENDRIN	Continuing calibration percent difference
09G017	A13X-9	8081A-TCLP	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference

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Reason for Qualified Results

SDG Nos. : 09G017

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G017	A13X-9	8081A-TCLP	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09G017

Surrogate Recovery Outlier Report

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Dilution	Matrix	Surrogate	Percent Recovery	Criteria (percent) Lower Limit	Upper Limit	Reject Point	Associated Target Analytes
A13X-9	G017-07I	8081A	10	SO	TETRACHLORO-M-XYLENE	131	40.0	130.0	0.0	All Target

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A12Y-C	G017-11T	8081A	SO	ALDRIN	J	2.9	5.1	UG/KG
	G017-11I			ENDOSULFAN II	J	16	41	UG/KG
				ENDRIN ALDEHYDE	J	22	41	UG/KG
	G017-11T			ENDRIN ALDEHYDE	J	6.4	10	UG/KG
				ENDRIN KETONE	J	9.9	10	UG/KG
				HEPTACHLOR EPOXIDE	J	2.7	5.1	UG/KG
	G017-11	8081A-STLC	AQ	ALPHA-BHC	J	0.32	1.0	UG/L
				DIELDRIN	J	0.75	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.28	1.0	UG/L
A12Y-D	G017-12T	8081A	SO	4,4'-DDD	J	7.3	10	UG/KG
	G017-12I			4,4'-DDD	J	8.4	20	UG/KG
				ENDOSULFAN II	J	12	20	UG/KG
				ENDRIN ALDEHYDE	J	19	20	UG/KG
				GAMMA-BHC (LINDANE)	J	5.7	10	UG/KG
	G017-12	8081A-STLC	AQ	ALPHA-BHC	J	0.94	1.0	UG/L
				DELTA-BHC	J	0.75	1.0	UG/L
				DIELDRIN	J	0.57	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.40	1.0	UG/L
		8081A-TCLP		GAMMA-BHC (LINDANE)	J	0.22	1.0	UG/L
A12Y-E	G017-13T	8081A	SO	4,4'-DDD	J	6.8	10	UG/KG
				ENDOSULFAN SULFATE	J	6.2	10	UG/KG
	G017-13I			GAMMA-BHC (LINDANE)	J	5.9	10	UG/KG
	G017-13T			GAMMA-CHLORDANE	J	2.2	5.1	UG/KG
				HEPTACHLOR EPOXIDE	J	1.9	5.1	UG/KG
				METHOXYCHLOR	J	19	51	UG/KG
	G017-13	8081A-STLC	AQ	ALPHA-BHC	J	0.66	1.0	UG/L
				DELTA-BHC	J	0.69	1.0	UG/L
				DIELDRIN	J	0.33	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.36	1.0	UG/L
A12Y-F	G017-14T	8081A	SO	4,4'-DDD	J	9.7	10	UG/KG
	G017-14I			4,4'-DDD	J	8.5	20	UG/KG
				ALPHA-BHC	J	9.9	10	UG/KG
	G017-14T			ALPHA-CHLORDANE	J	1.6	5.1	UG/KG
	G017-14I			ENDOSULFAN II	J	11	20	UG/KG
	G017-14T			GAMMA-BHC (LINDANE)	J	4.8	5.1	UG/KG
	G017-14I			GAMMA-BHC (LINDANE)	J	3.2	10	UG/KG

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A12Y-F	G017-14T	8081A	SO	GAMMA-CHLORDANE	J	2.3	5.1	UG/KG
				HEPTACHLOR EPOXIDE	J	1.6	5.1	UG/KG
				METHOXYCHLOR	J	15	51	UG/KG
	G017-14	8081A-STLC	AQ	ALPHA-BHC	J	0.40	1.0	UG/L
				DIELDRIN	J	0.40	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.24	1.0	UG/L
A12Y-G	G017-15I	8081A	SO	4,4'-DDD	J	11	21	UG/KG
	G017-15T			ALDRIN	J	2.7	5.2	UG/KG
	G017-15I			ENDOSULFAN II	J	17	21	UG/KG
	G017-15T			ENDOSULFAN SULFATE	J	5.3	10	UG/KG
	G017-15I			ENDRIN	J	14	21	UG/KG
	G017-15T			ENDRIN KETONE	J	3.5	10	UG/KG
				HEPTACHLOR EPOXIDE	J	2.0	5.2	UG/KG
				METHOXYCHLOR	J	20	52	UG/KG
	G017-15	8081A-STLC	AQ	ALPHA-BHC	J	0.95	1.0	UG/L
				DELTA-BHC	J	0.61	1.0	UG/L
				DIELDRIN	J	0.93	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.40	1.0	UG/L
		8081A-TCLP		GAMMA-BHC (LINDANE)	J	0.21	1.0	UG/L
A12Y-H	G017-16I	8081A	SO	BETA-BHC	J	4.5	11	UG/KG
				DELTA-BHC	J	7.7	11	UG/KG
	G017-16T			ENDOSULFAN II	J	8.4	11	UG/KG
	G017-16I			ENDOSULFAN II	J	8.6	21	UG/KG
	G017-16T			ENDRIN ALDEHYDE	J	5.6	11	UG/KG
				GAMMA-CHLORDANE	J	5.0	5.3	UG/KG
	G017-16I			GAMMA-CHLORDANE	J	4.8	11	UG/KG
	G017-16	8081A-STLC	AQ	DIELDRIN	J	0.22	2.0	UG/L
A12Y-I	G017-17T	8081A	SO	ENDOSULFAN I	J	3.8	5.2	UG/KG
	G017-17I			ENDOSULFAN II	J	34	42	UG/KG
	G017-17T			GAMMA-CHLORDANE	J	4.7	5.2	UG/KG
				HEPTACHLOR EPOXIDE	J	4.4	5.2	UG/KG
				METHOXYCHLOR	J	44	52	UG/KG
	G017-17I			METHOXYCHLOR	J	49	210	UG/KG
	G017-17T	8081A-STLC	AQ	ALPHA-BHC	J	2.9	5.0	UG/L
				DELTA-BHC	J	1.7	5.0	UG/L
	G017-17			DIELDRIN	J	0.56	2.0	UG/L

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A12Y-I	G017-17	8081A-TCLP	AQ	GAMMA-BHC (LINDANE)	J	0.71	1.0	UG/L
A12Y-J	G017-18I	8081A	SO	ENDOSULFAN II	J	19	42	UG/KG
	G017-18T			ENDOSULFAN SULFATE	J	7.0	10	UG/KG
	G017-18I			ENDRIN ALDEHYDE	J	32	42	UG/KG
	G017-18T			GAMMA-CHLORDANE	J	2.6	5.2	UG/KG
	G017-18	8081A-STLC	AQ	DELTA-BHC	J	0.92	1.0	UG/L
				DIELDRIN	J	0.71	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.64	1.0	UG/L
		8081A-TCLP		GAMMA-BHC (LINDANE)	J	0.32	1.0	UG/L
A12Y-K	G017-19I	8081A	SO	ENDOSULFAN II	J	15	21	UG/KG
	G017-19T			ENDOSULFAN SULFATE	J	4.3	10	UG/KG
				ENDRIN ALDEHYDE	J	9.5	10	UG/KG
				GAMMA-CHLORDANE	J	3.3	5.2	UG/KG
				METHOXYCHLOR	J	16	52	UG/KG
	G017-19	8081A-STLC	AQ	DIELDRIN	J	0.47	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.55	1.0	UG/L
A12Y-L	G017-20I	8081A	SO	DELTA-BHC	J	15	21	UG/KG
				ENDRIN ALDEHYDE	J	21	41	UG/KG
				GAMMA-BHC (LINDANE)	J	9.4	21	UG/KG
	G017-20T			GAMMA-CHLORDANE	J	2.8	5.1	UG/KG
	G017-20	8081A-STLC	AQ	ALPHA-BHC	J	0.62	1.0	UG/L
				DELTA-BHC	J	0.60	1.0	UG/L
				DIELDRIN	J	0.43	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.36	1.0	UG/L
A12Y-M	G017-21T	8081A	SO	ALDRIN	J	1.5	5.1	UG/KG
	G017-21I			ALPHA-BHC	J	14	20	UG/KG
				ENDOSULFAN II	J	15	41	UG/KG
	G017-21T			ENDOSULFAN SULFATE	J	5.0	10	UG/KG
	G017-21I			ENDRIN ALDEHYDE	J	21	41	UG/KG
	G017-21T			GAMMA-CHLORDANE	J	4.5	5.1	UG/KG
				HEPTACHLOR EPOXIDE	J	1.9	5.1	UG/KG
				METHOXYCHLOR	J	19	51	UG/KG
	G017-21	8081A-STLC	AQ	DELTA-BHC	J	0.74	1.0	UG/L
				DIELDRIN	J	0.24	2.0	UG/L
A12Y-N	G017-22I	8081A	SO	DELTA-BHC	J	10	11	UG/KG
	G017-22T			ENDOSULFAN II	J	10	11	UG/KG

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A12Y-N	G017-22I	8081A	SO	ENDOSULFAN II	J	11	21	UG/KG
	G017-22T			ENDRIN ALDEHYDE	J	8.6	11	UG/KG
A12Y-O	G017-23I			4,4'-DDD	J	19	21	UG/KG
	G017-23T			ALPHA-CHLORDANE	J	1.9	5.1	UG/KG
	G017-23I			ENDOSULFAN II	J	12	21	UG/KG
	G017-23T			ENDRIN ALDEHYDE	J	9.3	10	UG/KG
	G017-23I			GAMMA-BHC (LINDANE)	J	8.7	10	UG/KG
	G017-23T			GAMMA-CHLORDANE	J	2.5	5.1	UG/KG
				METHOXYCHLOR	J	14	51	UG/KG
	G017-23	8081A-STLC	AQ	ALPHA-BHC	J	0.87	1.0	UG/L
				DIELDRIN	J	0.38	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.52	1.0	UG/L
		8081A-TCLP		GAMMA-BHC (LINDANE)	J	0.36	1.0	UG/L
A12Y-P	G017-24I	8081A	SO	ALDRIN	J	4.9	10	UG/KG
	G017-24T			ALDRIN	J	5.1	5.2	UG/KG
				ALPHA-CHLORDANE	J	1.7	5.2	UG/KG
	G017-24I			ENDOSULFAN II	J	15	21	UG/KG
	G017-24T			ENDRIN ALDEHYDE	J	9.4	10	UG/KG
	G017-24I			GAMMA-BHC (LINDANE)	J	6.4	10	UG/KG
	G017-24T			GAMMA-CHLORDANE	J	2.8	5.2	UG/KG
				METHOXYCHLOR	J	14	52	UG/KG
	G017-24	8081A-STLC	AQ	ALPHA-BHC	J	0.77	1.0	UG/L
				DELTA-BHC	J	0.93	1.0	UG/L
				DIELDRIN	J	0.47	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.53	1.0	UG/L
		8081A-TCLP		GAMMA-BHC (LINDANE)	J	0.22	1.0	UG/L
A12Y-Q	G017-25T	8081A	SO	ALPHA-BHC	J	2.9	5.1	UG/KG
				ENDOSULFAN II	J	8.6	10	UG/KG
				ENDRIN ALDEHYDE	J	5.6	10	UG/KG
				ENDRIN KETONE	J	9.6	10	UG/KG
				GAMMA-BHC (LINDANE)	J	4.7	5.1	UG/KG
				GAMMA-CHLORDANE	J	2.4	5.1	UG/KG
	G017-25I			TOXAPHENE	J	840	1000	UG/KG
	G017-25	8081A-STLC	AQ	4,4'-DDT	J	0.97	2.0	UG/L
				BETA-BHC	J	0.61	1.0	UG/L
				DIELDRIN	J	1.8	2.0	UG/L

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A12Y-R	G017-26I	8081A	SO	4,4'-DDD	J	71	82	UG/KG
				4,4'-DDE	J	76	82	UG/KG
	G017-26T			ALPHA-BHC	J	4.8	5.1	UG/KG
				GAMMA-CHLORDANE	J	1.6	5.1	UG/KG
				HEPTACHLOR EPOXIDE	J	4.2	5.1	UG/KG
	G017-26	8081A-STLC	AQ	4,4'-DDT	J	0.54	2.0	UG/L
				ALPHA-BHC	J	0.30	1.0	UG/L
				DELTA-BHC	J	0.46	1.0	UG/L
				DIELDRIN	J	0.59	2.0	UG/L
A12Y-S	G017-27T	8081A	SO	ENDOSULFAN SULFATE	J	4.4	10	UG/KG
	G017-27I			GAMMA-CHLORDANE	J	11	21	UG/KG
	G017-27T			HEPTACHLOR EPOXIDE	J	3.2	5.2	UG/KG
				METHOXYCHLOR	J	17	52	UG/KG
	G017-27	8081A-STLC	AQ	ALPHA-BHC	J	0.28	1.0	UG/L
				BETA-BHC	J	0.95	1.0	UG/L
A12Y-T	G017-28T	8081A	SO	DELTA-BHC	J	4.8	5.2	UG/KG
A12Y-U	G017-29T			ALPHA-BHC	J	4.2	5.1	UG/KG
				ALPHA-CHLORDANE	J	2.5	5.1	UG/KG
	G017-29I			ENDOSULFAN II	J	16	20	UG/KG
	G017-29T			ENDOSULFAN SULFATE	J	4.7	10	UG/KG
				METHOXYCHLOR	J	17	51	UG/KG
	G017-29	8081A-STLC	AQ	ALPHA-BHC	J	0.51	1.0	UG/L
				DELTA-BHC	J	0.62	1.0	UG/L
				DIELDRIN	J	0.39	2.0	UG/L
				GAMMA-BHC (LINDANE)	J	0.26	1.0	UG/L
A13X-10	G017-08I	8081A	SO	BETA-BHC	J	17	20	UG/KG
	G017-08T			ENDRIN ALDEHYDE	J	4.5	10	UG/KG
				GAMMA-CHLORDANE	J	3.5	5.1	UG/KG
	G017-08	8081A-STLC	AQ	4,4'-DDD	J	0.45	2.0	UG/L
				DELTA-BHC	J	0.22	1.0	UG/L
				DIELDRIN	J	0.63	2.0	UG/L
				ENDOSULFAN II	J	0.52	2.0	UG/L
A13X-11	G017-09I	8081A	SO	BETA-BHC	J	7.5	21	UG/KG
				DELTA-BHC	J	20	21	UG/KG
				ENDOSULFAN II	J	40	41	UG/KG
	G017-09T			ENDOSULFAN SULFATE	J	6.9	10	UG/KG

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A13X-11	G017-09T	8081A	SO	ENDRIN	J	3.1	10	UG/KG
	G017-09I			GAMMA-CHLORDANE	J	8.1	21	UG/KG
	G017-09T			METHOXYCHLOR	J	14	51	UG/KG
	G017-09	8081A-STLC	AQ	BETA-BHC	J	0.54	1.0	UG/L
				DIELDRIN	J	0.65	2.0	UG/L
A13X-12	G017-10T	8081A	SO	ALDRIN	J	4.3	5.4	UG/KG
				ENDRIN ALDEHYDE	J	7.1	11	UG/KG
	G017-10I			ENDRIN ALDEHYDE	J	37	43	UG/KG
	G017-10	8081A-STLC	AQ	4,4'-DDD	J	1.5	2.0	UG/L
				BETA-BHC	J	0.39	1.0	UG/L
				DELTA-BHC	J	0.63	1.0	UG/L
				DIELDRIN	J	0.86	2.0	UG/L
				ENDOSULFAN II	J	0.98	2.0	UG/L
A13X-3	G017-01T	8081A	SO	4,4'-DDD	J	6.9	11	UG/KG
	G017-01I			BETA-BHC	J	9.0	21	UG/KG
				ENDOSULFAN II	J	37	43	UG/KG
	G017-01T			ENDOSULFAN SULFATE	J	5.7	11	UG/KG
	G017-01I			GAMMA-CHLORDANE	J	17	21	UG/KG
	G017-01T			METHOXYCHLOR	J	11	54	UG/KG
	G017-01	8081A-STLC	AQ	DIELDRIN	J	0.61	2.0	UG/L
A13X-4	G017-02I	8081A	SO	4,4'-DDD	J	39	41	UG/KG
				DELTA-BHC	J	15	20	UG/KG
				ENDOSULFAN II	J	28	41	UG/KG
	G017-02T			ENDRIN	J	4.4	10	UG/KG
	G017-02I			GAMMA-CHLORDANE	J	7.9	20	UG/KG
	G017-02	8081A-STLC	AQ	DIELDRIN	J	0.41	2.0	UG/L
A13X-5	G017-03			BETA-BHC	J	0.87	1.0	UG/L
				DIELDRIN	J	1.3	2.0	UG/L
				ENDOSULFAN II	J	0.25	2.0	UG/L
A13X-6	G017-04I	8081A	SO	ENDOSULFAN II	J	32	43	UG/KG
	G017-04T			ENDOSULFAN SULFATE	J	6.2	11	UG/KG
				ENDRIN	J	3.7	11	UG/KG
	G017-04	8081A-STLC	AQ	DIELDRIN	J	1.1	2.0	UG/L
A13X-7	G017-05I	8081A	SO	BETA-BHC	J	10	21	UG/KG
				ENDOSULFAN II	J	34	42	UG/KG
	G017-05T			ENDOSULFAN SULFATE	J	5.6	10	UG/KG

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G017 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A13X-7	G017-05I	8081A	SO	GAMMA-CHLORDANE	J	19	21	UG/KG
	G017-05T			METHOXYCHLOR	J	12	52	UG/KG
	G017-05	8081A-STLC	AQ	BETA-BHC	J	0.39	1.0	UG/L
				DIELDRIN	J	0.83	2.0	UG/L
A13X-8	G017-06I	8081A	SO	ENDRIN ALDEHYDE	J	37	41	UG/KG
	G017-06T			GAMMA-CHLORDANE	J	4.7	5.1	UG/KG
	G017-06	8081A-STLC	AQ	BETA-BHC	J	0.67	1.0	UG/L
				DELTA-BHC	J	0.66	1.0	UG/L
				DIELDRIN	J	0.92	2.0	UG/L
				ENDOSULFAN II	J	0.26	2.0	UG/L
A13X-9	G017-07T	8081A	SO	ENDOSULFAN I	J	4.9	5.1	UG/KG
	G017-07	8081A-STLC	AQ	DIELDRIN	J	0.35	2.0	UG/L
				ENDOSULFAN II	J	1.0	2.0	UG/L

LDC #: 21264F3a

SDG #: 09G017

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 8/5/09

Reviewer: gm

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 7/02/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	~~N~~SW	
XIII.	Overall assessment of data	~~N~~SW	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A13X-3	11	A13X-8	21	A12Y-C	31	A12Y-H
2	A13X-3DL	12	A13X-8DL	22	A12Y-CDL	32	A12Y-HDL
3	A13X-4	13	A13X-9	23	A12Y-D	33	A12Y-I
4	A13X-4DL	14	A13X-9DL	24	A12Y-DDL	34	A12Y-IDL
5	A13X-5	15	A13~~C~~X-10	25	A12Y-E	35	A12Y-J
6	A13X-5DL	16	A13~~C~~X-10DL	26	A12Y-EDL	36	A12Y-JDL
7	A13X-6	17	A13~~C~~X-11	27	A12Y-F	37	A12Y-K
8	A13X-6DL	18	A13~~C~~X-11DL	28	A12Y-FDL	38	A12Y-KDL
9	A13X-7	19	A13~~C~~X-12	29	A12Y-G	39	A12Y-L
10	A13X-7DL	20	A13~~C~~X-12DL	30	A12Y-GDL	40	A12Y-LDL

LDC #: 21264F3a

SDG #: 09G017

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/5/09

Page: 2 of 3

Reviewer:

2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates:
II.	GC/ECD Instrument Performance Check	-	
III.	Initial calibration		
IV.	Continuing calibration/ICV		
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	See 1st page
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	N	
XIV.	Field duplicates		
XV.	Field blanks		

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

41 2	A12Y-M	51 2	A12Y-R	61 1	A13X-6-STLC	71 1	2 A12Y-F-STLC
42 2	A12Y-MDL	52 2	A12Y-RDL	62 1	A13X-7-STLC	72 1	A12Y-G-STLC
43 2	A12Y-N	53 2	A12Y-S	63 1	A13X-8-STLC	73 1	A12Y-H-STLC
44 2	A12Y-NDL	54 2	A12Y-SDL	64 1	A13X-9-STLC	74 1	A12Y-I-STLC
45 2	A12Y-O	55 2	A12Y-T	65 1	A13~~G~~X-10-STLC	75 1	A12Y-I-STLCDL
46 2	A12Y-ODL	56 2	A12Y-U	66 1	A13~~G~~X-11-STLC	76 1	A12Y-J-STLC
47 2	A12Y-P	57 2	A12Y-UDL	67 1	A13~~G~~X-12-STLC	77 1	A12Y-K-STLC
48 2	A12Y-PDL	58 1	A13X-3-STLC	68 1	A12Y-C-STLC	78 1	A12Y-L-STLC
49 2	A12Y-Q	59 1	A13X-4-STLC	69 1	A12Y-D-STLC	79 2	A12Y-M-STLC
50 2	A12Y-QDL	60 1	A13X-5-STLC	70 1	A12Y-E-STLC	80 2	A12Y-N-STLC

LDC #: 21264F3a

SDG #: 09G017

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/5/09

Page: 3 of 3

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
~~I.~~	~~Technical holding times~~	N	Sampling dates:
II.	GC/ECD Instrument Performance Check	-	
III.	Initial calibration		
IV.	Continuing calibration/ICV		
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	See 1st Page
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	N	
XIV.	Field duplicates		
XV.	Field blanks		

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

81 2	A12Y-O-STLC	91 1	A13X-6-TCLP	101 1	A12Y-F-TCLP	111 2	A12Y-P-TCLP
82 2	A12Y-P-STLC	92 1	A13X-7-TCLP	102 1	A12Y-G-TCLP	112 2	A12Y-Q-TCLP
83 2	A12Y-Q-STLC	93 1	A13X-8-TCLP	103 1	A12Y-H-TCLP	113 2	A12Y-R-TCLP
84 2	A12Y-R-STLC	94 1	A13X-9-TCLP	104 1	A12Y-I-TCLP	114 2	A12Y-S-TCLP
85 2	A12Y-S-STLC	95 1	A13~~C~~X-10-TCLP	105 1	A12Y-J-TCLP	115 2	A12Y-T-TCLP
86 2	A12Y-T-STLC	96 1	A13~~C~~X-11-TCLP	106 1	A12Y-K-TCLP	116 2	A12Y-U-TCLP
87 2	A12Y-U-STLC	97 1	A13~~C~~X-12-TCLP	107 1	A12Y-L-TCLP	117 1	MBLK1S
88 1	A13X-3-TCLP	98 1	A12Y-C-TCLP	108 2	A12Y-M-TCLP	118 2	MBLK2S
89 1	A13X-4-TCLP	99 1	A12Y-D-TCLP	109 2	A12Y-N-TCLP	119	
90 1	A13X-5-TCLP	100 1	A12Y-E-TCLP	110 2	A12Y-O-TCLP	120	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of ~~8~~ 6
Reviewer: an

METHOD: X GC __ HPLC

2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0%~~ 20.0?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
	7/7/09	SG060048A	RTX-CLPEST	M	31	( )	1, 3, 5, 7, 9, 11, 13	J / UJ / A
						( )		
		SG060048B	RTX-CLPEST II	Q	41	( )		
						( )		
		SG060061A	RTX-CLPEST	M	28	( )	17, 19, 21, 23, 25, 27,	
				O	29	( )	29, 31, 33, 35	
						( )		
		SG060061B	RTX-CLPEST II	G	27	( )		
				I	21	( )		
				O	36	( )		
				P	28	( )		
						( )		
	7/8/09	SG060074A	RTX-CLPEST	O	48	( )	37, 39, 41, 43, 45, 47,	
				P	26	( )	49, 51, 53 + MBLK25	
						( )		
		SG060074B	RTX-CLPEST II	G	32	( )		
				I	24	( )		
				M	22	( )		
				L	24	( )		
				O	45	( )		
				R	23	( )		
				P	37	( )		
						( )		
						( )		

LDC #: 21264F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD
(Y) N N/A Were continuing calibration standards analyzed at the required frequencies?
Y (N) N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~ 20.0?
Level IV Only
Y N (N/A) Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD 20 (Limit ≤ ~~15.0~~)	RT (limit)	Associated Samples	Qualifications
	718109	SG06089A	RTX-CLPEST	O	60	( )	15, 56	J/UJ/A
				P	45	( )		
						( )		
		SG06089B	RTX-CLPEST II	E	28	( )		
				G	32	( )		
				I	24	( )		
				M	29	( )		
				L	23	( )		
				O	60	( )		
				P	49	( )		
						( )		
		SG08004B	RTX-CLPEST II	G	23	( )	2, 4, 6, 8, 10, 12, 14, 16,	
				K	21	( )	18, 20	
						( )		
		SG08017B		G	21	( )	22, 24, 26, 28, 30,	
				K	23	( )	32, 34, 36, 38, 40	
						( )		
		SG08030A	RTX-CLPEST	H	23	( )	42, 44, 46, 48, 50,	
						( )	52, 54, 55, 57	
						( )		
						( )		
						( )		
						( )		
						( )		

LDC #: 21264F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: ap
2nd Reviewer: a

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD
Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0~~ 20.0%?
Level IV Only
Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
	7/8/09	SG080308	RTX-CLPESTII	A	23	( )	42, 44, 46, 48, 50,	J/UJ/A
				D	25	( )	52, 54, 55, 57	
				G	35	( )		
				I	21	( )		
				K	28	( )		
						( )		
	7/10/09	SG09042A	RTX-CLPEST	H	23	( )	MBLK1W	
						( )		
		SG09042B	RTX-CLPESTII	A	21	( )		
				D	29	( )		
				G	37	( )		
				K	30	( )		
				L	27	( )		
						( )		
		SG09058B		D	22	( )	58-66 + MBLK15	
				G	39	( )		
				K	29	( )		
				L	30	( )		
				R	26	( )		
						( )		
						( )		
						( )		
						( )		
						( )		

LDC #: 21264F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: [illegible]

METHOD: X GC __ HPLC

2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD

(Y) N N/A Were continuing calibration standards analyzed at the required frequencies?

Y (N) N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0%~~ 20.0?

Level IV Only

Y N (N/A) Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD 20 (Limit ≤ ~~15.0~~)	RT (limit)	Associated Samples	Qualifications
	7/10/09	5609071B	RTX-CLPEST II	A	24	( )	67-74, 76, 77	J/UJ/A
				D	28	( )		
				G	45	( )		
				I	26	( )		
				K	33	( )		
				L	28	( )		
				R	26	( )		
						( )		
		5609084B		D	22	( )	78-83, MBLK2W,	
				G	32	( )	MBLK25	
				K	24	( )		
				L	25	( )		
						( )		
	7/11/09	5609096B		A	27	( )	84-87	
				D	32	( )		
				G	41	( )		
				I	25	( )		
				K	31	( )		
				L	32	( )		
				R	26	( )		
				a	21	( )		
						( )		
						( )		
						( )		

LDC #: 21264F39
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: [illegible]

METHOD: X GC __ HPLC

2nd Reviewer: [illegible]

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~? 20.0

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
X	7/13/09	SG13004A	RTX-CLPEST	O	23	( )	75	J/UJ/A
						( )		
		SG13004B	RTX-CLPEST II		26	( )		
						( )		
-	7/9/09	SG09003B		G	30	( )	88-93, MBLK1W, MBLK1S	
				K	32	( )		
						( )		
		SG09016B		D	25	( )	94-103	
				G	39	( )		
				I	22	( )		
				K	31	( )		
				R	25	( )		
						( )		
-	7/10/09	SG09029A	RTX-CLPEST	Q	24	( )	104-109, MBLK2W,	
						( )	MBLK2S	
						( )		
		SG09029B	RTX-CLPEST II	A	21	( )		
				D	28	( )		
				G	37	( )		
				I	22	( )		
				K	31	( )		
				L	29	( )		
						( )		
						( )		

LDC #: 21264F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: ajr

METHOD: X GC __ HPLC

2nd Reviewer: a

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies? 20.0

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0~~20%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
-	7/10/09	SG09042A	RTX-CLPEST	H	23	( )	110-116	J/UJ/A
						( )		
		SG09042B	RTX-CLPEST II	A	21	( )		
				D	29	( )		
				G	37	( )		
				K	30	( )		
				L	27	( )		
						( )		
						( )		
						( )		
						( )		
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						( )		
						( )		

LDC #: 21264F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: ar
2nd Reviewer: a

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only
Y N (N/A) Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N (N/A) Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Sample ID ~~Compound Name~~	Finding	Associated Samples	Qualifications
	1,7,9,17	J, I, O, U > Cal Range	1,7,9,17	J Dets / A
	3,5,11,15	J, O, U > Cal Range	3,5,11,15	
	27,29,41,45,53	O > Cal Range	27,29,41,45,53	
	13	B, J, I, O, U > Cal Range	13	
	19	C, S, J, I, O, U > Cal Range	19	
	21	B, C, O > Cal Range	21	
	33	B, I, O, U > Cal Range	33	
	35	I, O, U > Cal Range	35	

Comments: See sample calculation verification worksheet for recalculations

LDC #: 21264F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: ayc
2nd Reviewer: a

METHOD: ___ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only
Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Sample ID ~~Compound Name~~	Finding	Associated Samples	Qualifications
	~~L, O,~~ 39	L, O, U > Cal Range	39	J Dets/A
	49	I, O > Cal Range	49	
	51	O, U > Cal Range	51	
	74	B > Cal Range	74	

Comments: See sample calculation verification worksheet for recalculations

LDC #: 21264F3a
SDG #: 09G017

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC (EPA SW 846 Method 8081A)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

(Y) N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	~~Finding~~ Compound	Associated Samples	Qualifications
		1, 7, 9, 17	J, I, O, U	1, 7, 9, 17	R/A
		2, 8, 10, 18	All except J, I, O, U	2, 8, 10, 18	
		3, 5, 11, 15	J, O, U	3, 5, 11, 15	
		4, 6, 12, 16	All except J, O, U	4, 6, 12, 16	
		23, 27, 29, 41, 45, 53	O	27, 29, 41, 45, 53, 23	
		24, 28, 30, 42, 46, 54	All except O	28, 30, 42, 46, 54, 24	
		13	B, J, I, O, U	13	
		14	All except B, J, I, O, U	14	

Comments: 5T, 48, 32, 38, 44 | All | 5T, 48, 32, 38, 44 | R/A

V:\Validation Worksheets\GC\OVR.GC

LDC #: 21246F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Reviewer: ag
2nd Reviewer: [illegible]

METHOD: X GC ___ HPLC (EPA SW 846 Method 8081A)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound ~~Finding~~	Associated Samples	Qualifications
		19	C, S, J, I, O, U	19	R/A
		20	All except C, S, J, I, O, U	20	
		21	B, C, O	21	
		22	All except B, C, O	22	
		33	B, I, O, U	33	
		34	All except B, I, O, U	34	
		35	I, O, U	35	
		36	All except I, O, U	36	

Comments: _____

LDC #: 21264 F3a
SDG #: 096017

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Reviewer: agn
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC (EPA SW 846 Method ~~8081A~~)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound ~~Finding~~	Associated Samples	Qualifications
		39	L, O, U	39	R/A
		40	All except L, O, U	40	
		49	I, O	49	
		50	All except I, O	50	
		51, 25	O, U	51, 25	
		52, 26	All except O, U	52, 26	
		74	B	74	
		75	All except B	75	

Comments: _____

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Jul-2009	A10-2	G023-01	N	3550B	8081A	3
06-Jul-2009	B10-2	G023-02	N	3550B	8081A	3
06-Jul-2009	B11-2	G023-03	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G023										
8081A	A10-2	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				4,4'-DDT	10	83		J	UG/KG	
				ALPHA-CHLORDANE	5.1	3.4J		J	UG/KG	
				BETA-BHC	5.1	4.9J		J	UG/KG	
				DELTA-BHC	5.1	2.9J		J	UG/KG	
				ENDOSULFAN II	10	5.7J		J	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				ENDRIN KETONE	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.1	5.1U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
8081A	B10-2	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				4,4'-DDT	10	27		J	UG/KG	
				DIELDRIN	10	8.1J		J	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				ENDRIN KETONE	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.2	5.2U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.2	4.8J		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	5.2U		UJ	UG/KG	
8081A	B11-2	SO	N							
				4,4'-DDD	10	10U		UJ	UG/KG	
				4,4'-DDT	10	79		J	UG/KG	
				BETA-BHC	5.1	3.5J		J	UG/KG	
				ENDOSULFAN II	10	8.1J		J	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				ENDRIN KETONE	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.1	5.1U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	1.8J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09G023

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G023	A10-2	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09G023	A10-2	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G023	A10-2	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09G023	A10-2	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G023	A10-2	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G023	A10-2	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G023	B10-2	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09G023	B10-2	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G023	B10-2	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09G023	B10-2	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G023	B10-2	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G023	B10-2	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09G023	B11-2	8081A	72548		J	4,4'-DDD	Continuing calibration percent difference
09G023	B11-2	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G023	B11-2	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09G023	B11-2	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G023	B11-2	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09G023	B11-2	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09G023

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G023 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A10-2	G023-01	8081A	SO	ALPHA-CHLORDANE	J	3.4	5.1	UG/KG
				BETA-BHC	J	4.9	5.1	UG/KG
				DELTA-BHC	J	2.9	5.1	UG/KG
				ENDOSULFAN II	J	5.7	10	UG/KG
B10-2	G023-02			DIELDRIN	J	8.1	10	UG/KG
				GAMMA-CHLORDANE	J	4.8	5.2	UG/KG
B11-2	G023-03			BETA-BHC	J	3.5	5.1	UG/KG
				ENDOSULFAN II	J	8.1	10	UG/KG
				HEPTACHLOR EPOXIDE	J	1.8	5.1	UG/KG

LDC #: 21264G3a
SDG #: 09G023
Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 8/6/09
Page: 1 of 1
Reviewer: aa
2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 7/6/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A10-2	11	MBLK15	21		31	
2	B10-2	12		22		32	
3	B11-2	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 2126463
SDG #: 096023

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ar
2nd Reviewer: Q

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD
Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~ 20.0%?
Level IV Only
Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
	719109	SG08042A	RTX-CLPEST	M	21	( )	ALL + BLK	J / UJ / A
						( )		
		SG08042B	RTX-CLPEST II	D	28	( )		
				G	36	( )		
				K	26	( )		
				O	24	( )		
				Q	21	( )		
						( )		
						( )		
						( )		
						( )		
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						( )		
						( )		

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 3rd, 2009.

LDC project # 21264:

SDG #	Fraction
09F197, 09F249 09F264, 09F312 09G004, 09G017 09G023, 09G129	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)
- Enclosure II — EPA Level IV Validation Reports

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates

- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Jul-2009	A10-CON	G129-01T	N	3550B	8081A	3
14-Jul-2009	A12-CON	G129-02I	N	3550B	8081A	3
14-Jul-2009	A12-CON	G129-02T	N	3550B	8081A	3
14-Jul-2009	A13-CON	G129-03T	N	3550B	8081A	3
14-Jul-2009	A14-CON	G129-04T	N	3550B	8081A	3
14-Jul-2009	A16-CON	G129-05I	N	3550B	8081A	3
14-Jul-2009	A16-CON	G129-05J	N	3550B	8081A	3
14-Jul-2009	B11-CON	G129-06T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G129										
8081A	A10-CON	SO	N							
				BETA-BHC	5.1	3.2J		J	UG/KG	
				DELTA-BHC	5.1	4.1J		J	UG/KG	
				ENDOSULFAN II	10	8.0J		J	UG/KG	
8081A	A12-CON	SO	N							
				4,4'-DDD	10	7.6J		J	UG/KG	
				4,4'-DDT	41	140		J	UG/KG	
8081A	A14-CON	SO	N							
				4,4'-DDT	10	4.4J		J	UG/KG	
				DELTA-BHC	5.1	2.4J		J	UG/KG	
				DIELDRIN	10	6.0J		J	UG/KG	
8081A	A16-CON	SO	N							
				4,4'-DDD	42	24J		J	UG/KG	
				4,4'-DDT	210	700		J	UG/KG	
				DELTA-BHC	21	7.9J		J	UG/KG	
				ENDOSULFAN II	42	37J		J	UG/KG	
				ENDOSULFAN SULFATE	42	22J		J	UG/KG	
				ENDRIN KETONE	42	42U		UJ	UG/KG	
				METHOXYCHLOR	210	210U		UJ	UG/KG	
8081A	B11-CON	SO	N							
				4,4'-DDE	11	5.6J		J	UG/KG	
				4,4'-DDT	11	6.2J		J	UG/KG	
				DIELDRIN	11	7.9J		J	UG/KG	
				TOXAPHENE	130	90J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09G129

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09G129	A12-CON	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G129	A16-CON	8081A	50293	J		4,4'-DDT	Continuing calibration percent difference
09G129	A16-CON	8081A	53494705		J	ENDRIN KETONE	Continuing calibration percent difference
09G129	A16-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09G129

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G129 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A10-CON	G129-01T	8081A	SO	BETA-BHC	J	3.2	5.1	UG/KG
				DELTA-BHC	J	4.1	5.1	UG/KG
				ENDOSULFAN II	J	8.0	10	UG/KG
A12-CON	G129-02T			4,4'-DDD	J	7.6	10	UG/KG
	G129-02I			BETA-BHC	J	8.4	21	UG/KG
				DELTA-BHC	J	6.7	21	UG/KG
				ENDOSULFAN II	J	13	41	UG/KG
A14-CON	G129-04T			4,4'-DDT	J	4.4	10	UG/KG
				DELTA-BHC	J	2.4	5.1	UG/KG
				DIELDRIN	J	6.0	10	UG/KG
A16-CON	G129-05I			4,4'-DDD	J	24	42	UG/KG
				DELTA-BHC	J	7.9	21	UG/KG
	G129-05J			DIELDRIN	J	170	210	UG/KG
	G129-05I			ENDOSULFAN II	J	37	42	UG/KG
				ENDOSULFAN SULFATE	J	22	42	UG/KG
	G129-05J			TOXAPHENE	J	1700	2600	UG/KG
B11-CON	G129-06T			4,4'-DDE	J	5.6	11	UG/KG
				4,4'-DDT	J	6.2	11	UG/KG
				DIELDRIN	J	7.9	11	UG/KG
				TOXAPHENE	J	90	130	UG/KG

LDC #: 21264H3a

SDG #: 09G129

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/6/09

Page: ___ of ___

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 7/14/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	~~N~~ SW	
XIII.	Overall assessment of data	~~N~~ SW	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A10-CON	11	MBLK1S	21		31	
2	A12-CON	12		22		32	
3	A12-CONDL	13		23		33	
4	A13-CON	14		24		34	
5	A14-CON	15		25		35	
6	A16-CON	16		26		36	
7	A16-CONDL	17		27		37	
8	B11-CON	18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21264H3a
SDG #: 096129

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ajr
2nd Reviewer: 9

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __ RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies? 2a6

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~ 20%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ~~≤ 15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
	7/18/09	SG17035A	RTX-CLPEST	P	21	( )	~~2~~3, 6-7	J / UJ / A
						( )		
		SG17035B	RTX-CLPEST II	O	22	( )		
				P	22	( )		
				Q	21	( )		
						( )		
						( )		
						( )		
						( )		
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LDC #: 21264H3a
SDG #: 096129

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: gyr
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only
Y N (N/A) Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N (N/A) Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Sample ID ~~Compound Name~~	Finding	Associated Samples	Qualifications
	2, 6	0 > Cal Range	2, 6	J Dets/A

Comments: See sample calculation verification worksheet for recalculations

LDC #: 21264H3a
SDG #: 096129

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Reviewer: ajr
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC (EPA 8081A)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

(Y) N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound ~~Finding~~	Associated Samples	Qualifications
		2, 6	O	2, 6	R/A
					↓
		3, 7	All except O	3, 7	↓

Comments: _____

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 5th, 2009.

LDC project # 21278:

SDG #	Fraction
09F179, 09F275	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
12-Jun-2009	H-1-CON	F179-01	N	3550B	8081A	3
12-Jun-2009	I-1-CON	F179-02	N	3550B	8081A	3
12-Jun-2009	H-2-CON	F179-03	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F179										
8081A	H-1-CON	SO	N							
				4,4'-DDD	4.1	2.5J		J	UG/KG	
				DELTA-BHC	2.1	1.1J		J	UG/KG	
				DIELDRIN	4.1	2.0J		J	UG/KG	
				ENDOSULFAN II	4.1	3.1J		J	UG/KG	
				GAMMA-CHLORDANE	2.1	1.1J		J	UG/KG	
				HEPTACHLOR EPOXIDE	2.1	2.1U		UJ	UG/KG	
8081A	H-2-CON	SO	N							
				DIELDRIN	4.1	1.8J		J	UG/KG	
				ENDOSULFAN II	4.1	2.8J		J	UG/KG	
				HEPTACHLOR EPOXIDE	2.1	2.1U		UJ	UG/KG	
8081A	I-1-CON	SO	N							
				4,4'-DDD	4.1	3.0J		J	UG/KG	
				DELTA-BHC	2.1	1.9J		J	UG/KG	
				DIELDRIN	4.1	3.7J		J	UG/KG	
				HEPTACHLOR EPOXIDE	2.1	2.1U		UJ	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09F179

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09F179	H-1-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F179	H-2-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F179	I-1-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09F179

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09F179 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
H-1-CON	F179-01	8081A	SO	4,4'-DDD	J	2.5	4.1	UG/KG
				DELTA-BHC	J	1.1	2.1	UG/KG
				DIELDRIN	J	2.0	4.1	UG/KG
				ENDOSULFAN II	J	3.1	4.1	UG/KG
				GAMMA-CHLORDANE	J	1.1	2.1	UG/KG
H-2-CON	F179-03			DIELDRIN	J	1.8	4.1	UG/KG
				ENDOSULFAN II	J	2.8	4.1	UG/KG
I-1-CON	F179-02			4,4'-DDD	J	3.0	4.1	UG/KG
				DELTA-BHC	J	1.9	2.1	UG/KG
				DIELDRIN	J	3.7	4.1	UG/KG

LDC #: 21278A3a

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/6/09

SDG #: 09F179

Page: 1 of 1

Laboratory: EMAX Laboratories, Inc.

Reviewer: ajr

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 6/12/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	N	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	H-1-CON	11	MBLK1S	21		31	
2	I-1-CON	12		22		32	
3	H-2-CON	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21278A 3a
SDG #: 09F179

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ajn

METHOD: X GC __ HPLC

2nd Reviewer: 4

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?

Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ~~≤15.0%~~ 20.0?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD20 (Limit ≤ ~~15.0~~)	RT (limit)	Associated Samples	Qualifications
	6/17/09	SF16028B	RTX-CLPESTII	G		( )	ALL + BLK	J/UJ/A
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
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LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. These SDGs were received on August 5th, 2009.

LDC project # 21278:

SDG #	Fraction
09F179, 09F275	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
25-Jun-2009	A1-CON	F275-01T	N	3550B	8081A	3
25-Jun-2009	A3-CON	F275-02T	N	3550B	8081A	3
25-Jun-2009	A10-CON	F275-03I	N	3550B	8081A	3
25-Jun-2009	A10-CON	F275-03T	N	3550B	8081A	3
25-Jun-2009	A11-CON	F275-04T	N	3550B	8081A	3
25-Jun-2009	SS-A13X1	F275-05	N	3520C	8081A-STLC	3
25-Jun-2009	SS-A13X1	F275-05	N	3520C	8081A-TCLP	3
25-Jun-2009	SS-A13X1	F275-05I	N	3550B	8081A	3
25-Jun-2009	SS-A13X1	F275-05T	N	3550B	8081A	3
25-Jun-2009	SS-A13X2	F275-06	N	3520C	8081A-STLC	3
25-Jun-2009	SS-A13X2	F275-06	N	3520C	8081A-TCLP	3
25-Jun-2009	SS-A13X2	F275-06I	N	3550B	8081A	3
25-Jun-2009	SS-A13X2	F275-06T	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F275										
8081A	A10-CON	SO	N							
				BETA-BHC	5.1	4.4J		J	UG/KG	
				DELTA-BHC	5.1	5.1U		UJ	UG/KG	
				ENDOSULFAN SULFATE	10	6.1J		J	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.1	5.1U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	18J		J	UG/KG	
8081A	A11-CON	SO	N							
				DELTA-BHC	5.1	5.1U		UJ	UG/KG	
				DIELDRIN	10	7.7J		J	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.1	5.1U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.1	5.1U		UJ	UG/KG	
				METHOXYCHLOR	51	51U		UJ	UG/KG	
				TOXAPHENE	130	77J		J	UG/KG	
8081A	A1-CON	SO	N							
				4,4'-DDE	10	8.3J		J	UG/KG	
				DELTA-BHC	5.2	5.2U		UJ	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.2	5.2U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	5.2U		UJ	UG/KG	
				METHOXYCHLOR	52	52U		UJ	UG/KG	
				TOXAPHENE	130	77J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F275										
8081A	A3-CON	SO	N							
				4,4'-DDE	10	4.3J		J	UG/KG	
				4,4'-DDT	10	7.0J		J	UG/KG	
				DELTA-BHC	5.2	5.2U		UJ	UG/KG	
				ENDRIN	10	10U		UJ	UG/KG	
				GAMMA-BHC (LINDANE)	5.2	5.2U		UJ	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	5.2U		UJ	UG/KG	
				METHOXYCHLOR	52	52U		UJ	UG/KG	
				TOXAPHENE	130	43J		J	UG/KG	
8081A	SS-A13X1	AQ	N							
				4,4'-DDD	11	32		J	UG/KG	
				ALDRIN	5.3	1.8J		J	UG/KG	
				ALPHA-CHLORDANE	5.3	31		J	UG/KG	
				BETA-BHC	5.3	23		J	UG/KG	
				DELTA-BHC	5.3	28		J	UG/KG	
				DIELDRIN	11	85		J	UG/KG	
				ENDOSULFAN II	11	39		J	UG/KG	
				ENDOSULFAN SULFATE	11	6.6J		J	UG/KG	
				ENDRIN	11	11U		UJ	UG/KG	
				ENDRIN ALDEHYDE	11	34		J	UG/KG	
				GAMMA-BHC (LINDANE)	5.3	5.3U		UJ	UG/KG	
				GAMMA-CHLORDANE	5.3	16		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.3	5.3U		UJ	UG/KG	
				METHOXYCHLOR	53	16J		J	UG/KG	
8081A	SS-A13X2	AQ	N							
				ALPHA-CHLORDANE	5.2	1.9J		J	UG/KG	
				DELTA-BHC	5.2	21		J	UG/KG	
				ENDRIN	10	6.9J		J	UG/KG	
				GAMMA-BHC (LINDANE)	5.2	8.4		J	UG/KG	
				HEPTACHLOR EPOXIDE	5.2	13		J	UG/KG	
				METHOXYCHLOR	52	95		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09F275										
8081A-STLC	SS-A13X1	AQ	N							
				4,4'-DDT	2.0	2.0U		UJ	UG/L	
				DELTA-BHC	1.0	0.32J		J	UG/L	
				DIELDRIN	2.0	0.79J		J	UG/L	
8081A-STLC	SS-A13X2	AQ	N							
				4,4'-DDT	2.0	2.0U		UJ	UG/L	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight

Reason for Qualified Results

SDG Nos. : 09F275

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09F275	A10-CON	8081A	319868		J	DELTA-BHC	Continuing calibration percent difference
09F275	A10-CON	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09F275	A10-CON	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09F275	A10-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F275	A10-CON	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09F275	A11-CON	8081A	319868		J	DELTA-BHC	Continuing calibration percent difference
09F275	A11-CON	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09F275	A11-CON	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09F275	A11-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F275	A11-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09F275	A1-CON	8081A	319868		J	DELTA-BHC	Continuing calibration percent difference
09F275	A1-CON	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09F275	A1-CON	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09F275	A1-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F275	A1-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09F275	A3-CON	8081A	319868		J	DELTA-BHC	Continuing calibration percent difference
09F275	A3-CON	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09F275	A3-CON	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09F275	A3-CON	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F275	A3-CON	8081A	72435		J	METHOXYCHLOR	Continuing calibration percent difference
09F275	SS-A13X1	8081A	72548	J		4,4'-DDD	Surrogate recovery
09F275	SS-A13X1	8081A	309002	J		ALDRIN	Surrogate recovery
09F275	SS-A13X1	8081A	5103719	J		ALPHA-CHLORDANE	Surrogate recovery
09F275	SS-A13X1	8081A	319857	J		BETA-BHC	Surrogate recovery
09F275	SS-A13X1	8081A	319868	J		DELTA-BHC	Continuing calibration percent difference
09F275	SS-A13X1	8081A	319868	J		DELTA-BHC	Surrogate recovery
09F275	SS-A13X1	8081A	60571	J		DIELDRIN	Surrogate recovery
09F275	SS-A13X1	8081A	33213659	J		ENDOSULFAN II	Surrogate recovery
09F275	SS-A13X1	8081A	1031078	J		ENDOSULFAN SULFATE	Surrogate recovery
09F275	SS-A13X1	8081A	72208		J	ENDRIN	Continuing calibration percent difference
09F275	SS-A13X1	8081A	7421934	J		ENDRIN ALDEHYDE	Surrogate recovery
09F275	SS-A13X1	8081A	58899		J	GAMMA-BHC (LINDANE)	Continuing calibration percent difference

Insight

Reason for Qualified Results

SDG Nos. : 09F275

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
09F275	SS-A13X1	8081A	5103742	J		GAMMA-CHLORDANE	Surrogate recovery
09F275	SS-A13X1	8081A	1024573		J	HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F275	SS-A13X1	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09F275	SS-A13X1	8081A	72435	J		METHOXYCHLOR	Surrogate recovery
09F275	SS-A13X1	8081A-STLC	50293		J	4,4'-DDT	Continuing calibration percent difference
09F275	SS-A13X2	8081A	319868	J		DELTA-BHC	Continuing calibration percent difference
09F275	SS-A13X2	8081A	72208	J		ENDRIN	Continuing calibration percent difference
09F275	SS-A13X2	8081A	58899	J		GAMMA-BHC (LINDANE)	Continuing calibration percent difference
09F275	SS-A13X2	8081A	1024573	J		HEPTACHLOR EPOXIDE	Continuing calibration percent difference
09F275	SS-A13X2	8081A	72435	J		METHOXYCHLOR	Continuing calibration percent difference
09F275	SS-A13X2	8081A-STLC	50293		J	4,4'-DDT	Continuing calibration percent difference

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09F275

Surrogate Recovery Outlier Report

Lab Report Batch: 09F275 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Dilution	Matrix	Surrogate	Percent Recovery	Criteria (percent) Lower Limit	Upper Limit	Reject Point	Associated Target Analytes
SS-A13X1	F275-05T	8081A	2.5	SO	TETRACHLORO-M-XYLENE	131	40.0	130.0	0.0	All Target

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09F275 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A10-CON	F275-03I	8081A	SO	4,4'-DDD	J	32	82	UG/KG
	F275-03T			BETA-BHC	J	4.4	5.1	UG/KG
				ENDOSULFAN SULFATE	J	6.1	10	UG/KG
				METHOXYCHLOR	J	18	51	UG/KG
A11-CON	F275-04T			DIELDRIN	J	7.7	10	UG/KG
				TOXAPHENE	J	77	130	UG/KG
A1-CON	F275-01T			4,4'-DDE	J	8.3	10	UG/KG
				TOXAPHENE	J	77	130	UG/KG
A3-CON	F275-02T			4,4'-DDE	J	4.3	10	UG/KG
				4,4'-DDT	J	7.0	10	UG/KG
				TOXAPHENE	J	43	130	UG/KG
SS-A13X1	F275-05I			4,4'-DDD	J	28	43	UG/KG
	F275-05T			ALDRIN	J	1.8	5.3	UG/KG
	F275-05I			ENDOSULFAN II	J	35	43	UG/KG
	F275-05T			ENDOSULFAN SULFATE	J	6.6	11	UG/KG
	F275-05I			GAMMA-CHLORDANE	J	13	21	UG/KG
	F275-05T			METHOXYCHLOR	J	16	53	UG/KG
	F275-05	8081A-STLC	AQ	DELTA-BHC	J	0.32	1.0	UG/L
				DIELDRIN	J	0.79	2.0	UG/L
SS-A13X2	F275-06I	8081A	SO	4,4'-DDD	J	54	83	UG/KG
	F275-06T			ALPHA-CHLORDANE	J	1.9	5.2	UG/KG
	F275-06I			DELTA-BHC	J	31	42	UG/KG
				ENDOSULFAN II	J	57	83	UG/KG
	F275-06T			ENDRIN	J	6.9	10	UG/KG

LDC #: 21278B3a

SDG #: 09F275

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/6/09

Page: 1 of 1

Reviewer: ajr

2nd Reviewer: [illegible]

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 6/25/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	SW	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	~~A~~SW	
XIII.	Overall assessment of data	~~A~~SW	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ALL SOILS

1	A1-CON	11	SS-A13X2-STLC	21	MBLKIS	31	
2	A3-CON	12	SS-A13X1-TCLP	22		32	
3	A10-CON	13	SS-A13X2-TCLP	23		33	
4	A10-CONDL	14		24		34	
5	A11-CON	15		25		35	
6	SS-A13X1	16		26		36	
7	SS-A13X1DL	17		27		37	
8	SS-A13X2	18		28		38	
9	SS-A13X2DL	19		29		39	
10	SS-A13X1-STLC	20		30		40	

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:_____

LDC #: 21278B3a
SDG #: 09F275

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: ap
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
What type of continuing calibration calculation was performed? X %D or __RPD

Y N N/A Were continuing calibration standards analyzed at the required frequencies?
Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤~~15.0~~ 20.0%?

Level IV Only

Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

#	Date	Standard ID	Detector/ Column	Compound	%D / RPD (Limit ≤ ~~15.0~~ 20)	RT (limit)	Associated Samples	Qualifications
	6/30/09	SF29047A	RTX-CLPEST	P	34	( )	1-3, 5-6, 8,	J/UJ/A
						( )		
		SF29047B	RTX-CLPESTII	D	27	( )		
				C	23	( )		
				G	29	( )		
				K	29	( )		
						( )		
		SF29059A	RTX-CLPEST	M	22	( )	4, 7, 9	
						( )		
		SF29059B	RTX-CLPESTII	D	22	( )		
				G	22	( )		
				K	23	( )		
						( )		
		SF29076A	RTX-CLPEST	O	25	( )	~~10-11~~ 10-13	
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		
						( )		

LDC #: 21278B3a
SDG #: 09F275

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Level IV/D Only
Y N (N/A) Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?
Y N (N/A) Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Sample ID ~~Compound Name~~	Finding	Associated Samples	Qualifications
	3	O, U > cal Range	3	J Dets / A
	6	J, O, U > cal Range	6	
	8	J, I, O, U > cal Range	8	

Comments: See sample calculation verification worksheet for recalculations

LDC #: 21278B3a
SDG #: 09F275

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: X GC __ HPLC (EPA Method 8081A)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

(Y) N N/A Was the overall quality and usability of the data acceptable?

#	Date	Sample ID	Compound ~~Finding~~	Associated Samples	Qualifications
		3	O, U	3	R/A
		4	All except O, U	4	
		6	J, O, U	6	
		7	All except J, O, U	7	
		8	J, I, O, U	8	
		9	All except J, I, O, U	9	

Comments: _____

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Insight EEC, Inc.
3020 E. Miraloma
Anaheim, CA 92806
ATTN: Mr. Nick Weinberger

August 13, 2009

SUBJECT: MCB Camp Pendleton, Ag Fields A6 Phase BI Data Validation

Dear Mr. Weinberger,

Enclosed is the final validation report and Excel qualification sheet for the fractions listed below. This SDG was received on August 11th, 2009.

LDC project # 21321:

SDG #	Fraction
09G241	Pesticides (EPA SW 846 Method 8081A)

The following deliverables are submitted under this report:

- Attachment I — Sample ID Cross Reference and Data Review Level
- Attachment II — Overall Data Qualification Summary
- Attachment III — Insight Database Qualification Summary
- Enclosure I — EPA Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review, June 2008. Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Manual Review)
- Continuing Calibration (Manual Review)
- Blanks
- Surrogates
- Internal Standards (Manual Review)
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Control Samples
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
23-Jul-2009	A12-CON	G241-01I	N	3550B	8081A	3
23-Jul-2009	A16-CON	G241-02I	N	3550B	8081A	3

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Attachment II

Overall Data Qualification Summary

Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 09G241										
8081A	A16-CON	SO	N							
				4,4'-DDE	10	3.9J		J	UG/KG	

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Attachment III

Insight Database Qualification Summary

Insight
Reason for Qualified Results
SDG Nos. : 09G241

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason

No Qualified Results

Enclosure I

EPA Level III ADR Outliers
(including Manual Review Outliers)

Quality Control Outlier Reports

09G241

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: 09G241 **Lab ID:** EMXT

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
A16-CON	G241-02I	8081A	SO	4,4'-DDE	J	3.9	10	UG/KG

LDC #: 21321A3a

SDG #: 09G241

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET
ADR

Date: 8/11/09

Page: 1 of 1

Reviewer: dh

2nd Reviewer:

METHOD: GC Chlorinated Pesticides (EPA SW 846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	N	Sampling dates: 7/23/09
II.	GC/ECD Instrument Performance Check	A	
III.	Initial calibration	A	RSD ≤ 20%
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 20%
V.	Blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data	N	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Soil

1	A12-CON	11	MBLK 1S	21		31	
2	A16-CON	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

APPENDIX D

RESPONSES TO REGULATORY AGENCY COMMENTS

Document Title: Draft Closure Report, Stuart Mesa East Agriculture Fields, Marine Corps Base Camp Pendleton, California, August 2009

Reviewer: *Cheryl Prowell, PE, Water Resource Control Engineer, California Regional Water Quality Control Board, San Diego Region, Comments received August 18, 2009*

Comment No.	Page No./ Section	Comment	Response
Specific Comment			
1.	p. 1-1, Section 1.1, Site Identification	You don't need to list the RWQCB Reference No. or the RWQCB Case No. unless they are useful for you.	The RWQCB Reference No. or the RWQCB Case No. will be removed from Section 1.1. The site will be identified by the Global ID No.
2.	p. 3-1, Section 3.1.2, Underground Utility Survey	Include dates.	The date of the Facility Maintenance Department site inspection and the date of Underground Service Alert notification will be included in the final report.
3.	p. 3-4, Section 3.5, Waste Management	Why two different non-hazardous waste landfills? Was there a difference in the soils?	The soil transported to Western Environmental and Otay Landfill contained similar concentrations of toxaphene. All soil transported off-Base during this project was classified as non-hazardous waste based on the results of representative soil samples. Both facilities are approved to accept this non-hazardous material. However, the Navy made a decision to transport the majority of the soil to Otay Landfill, a lined landfill, due to concerns that the treatment process proposed by Western Environmental could potentially produce chlorobornanes as a byproduct. The soil that was initially transported to Western Environmental will be analyzed for organochlorine pesticides and chlorobornanes after treatment is complete to confirm that the treatment process was successful. This paragraph will be added to the final report.
4.	p. 3-4, Section 3.6, Site Restoration and Demobilization	Have BMPs been installed to minimize dust or erosion prior to construction? When is the residential construction project planned to begin?	The final report will be modified to state that due to the existing topography and the nature of the large shallow excavations at the site, surface water flows toward the agriculture field and will not exit the construction area. The construction area will be inspected periodically and during any rain events to determine the need for additional dust or erosion BMPs prior to the start of the residential construction project that is scheduled to begin in late October 2009. The scheduled start of construction will be added to the last sentence in Section 3.6.
5.	p. 4-2, Section 4.2.1, Over-Excavated Areas, Table	Add a new row showing the action levels. Use some sort of formatting to indicate the results exceeding the action level.	A new row will be added to the table in Section 4.2.1 showing action levels for toxaphene and dieldrin. Results exceeding the action levels will be highlighted. An additional column will also be added to the table to identify the sequence of the excavation at each grid (i.e., initial, first over-excavation, and final).

Document Title: Draft Closure Report, Stuart Mesa East Agriculture Fields, Marine Corps Base Camp Pendleton, California, August 2009

Reviewer: *Cheryl Prowell, PE, Water Resource Control Engineer, California Regional Water Quality Control Board, San Diego Region, Comments received August 18, 2009*

Comment No.	Page No./ Section	Comment	Response
6.	p. 4-3, Section 4.3, Data Validation	Are all the data presented in the report presented as qualified? If not, please add the qualifiers or add a footnote to explain that the qualifiers are not shown.	All data presented in the report (text, tables, figures) will include validation qualifiers, if applicable.