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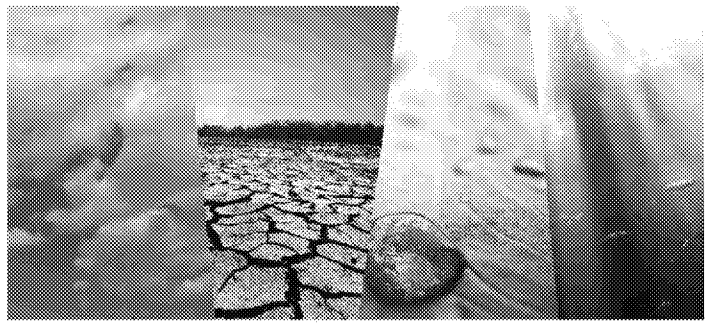
WORK ORDER NUMBER: 14-08-0425

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CH2M Hill

Client Project Name: Dynegy SBPP / 482070.01.03

Attention: James Laws
6 Hutton Centre Drive, Suite 700
Santa Ana, CA 92707-5735

Approved for release on 08/11/2014 by:
Virendra Patel
Project Manager

ResultLink ▸

Email your PM ▸

nelac

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NELAP ID: 03205CA | ACLASS DoD ELAP ID: ADE-1884 (ISO/IEC 17025:2005) | DSDLAC ID: 10109 | SCAQMD ID: 93LA0836

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Work Order Number: 14-08-0425

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Work Order Narrative

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 08/06/14. They were assigned to Work Order 14-08-0425.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: http://www.calscience.com/PDF/New_York.pdf

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

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Sample Summary

Client:	CH2M Hill 6 Hutton Centre Drive, Suite 700 Santa Ana, CA 92707-5735	Work Order:	14-08-0425
		Project Name:	Dynegy SBPP / 482070.01.03
		PO Number:	482070.1000
		Date/Time Received:	08/06/14 19:40
		Number of Containers:	1
Attn:	James Laws		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SBPP-175D-080514	14-08-0425-1	08/05/14 15:00	1	Concrete

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Analytical Report

CH2M Hill		Date Received:	08/06/14
6 Hutton Centre Drive, Suite 700		Work Order:	14-08-0425
Santa Ana, CA 92707-5735		Preparation:	EPA 3545
		Method:	EPA 8082
		Units:	ug/kg
Project: Dynegy SBPP / 482070.01.03			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SBPP-175D-080514	**14-08-0425-1-A**	**08/05/14 15:00**	**Concrete**	**GC 58**	**08/07/14**	**08/09/14 20:54**	**140807L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	103	24-168	
2,4,5,6-Tetrachloro-m-Xylene	99	25-145	

Method Blank	**099-12-535-2795**	**N/A**	**Solid**	**GC 58**	**08/07/14**	**08/09/14 18:12**	**140807L19**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

CH2M Hill		Date Received:	08/06/14
6 Hutton Centre Drive, Suite 700		Work Order:	14-08-0425
Santa Ana, CA 92707-5735		Preparation:	EPA 3545
		Method:	EPA 8082
Project: Dynegy SBPP / 482070.01.03			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
14-08-0330-1	**Sample**	**Solid**	**GC 58**	**08/07/14**	**08/09/14 19:06**	**140807S19**
14-08-0330-1	**Matrix Spike**	**Solid**	**GC 58**	**08/07/14**	**08/09/14 18:31**	**140807S19**
14-08-0330-1	**Matrix Spike Duplicate**	**Solid**	**GC 58**	**08/07/14**	**08/09/14 18:48**	**140807S19**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	145.1	145	128.7	129	50-135	12	0-20	3
Aroclor-1260	ND	100.0	90.10	90	75.17	75	50-135	18	0-25	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

CH2M Hill		Date Received:	08/06/14
6 Hutton Centre Drive, Suite 700		Work Order:	14-08-0425
Santa Ana, CA 92707-5735		Preparation:	EPA 3545
		Method:	EPA 8082
Project: Dynegy SBPP / 482070.01.03			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-2795	**LCS**	**Solid**	**GC 58**	**08/07/14**	**08/09/14 17:54**	**140807L19**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	98.12	98	50-135	
Aroclor-1260	100.0	93.50	93	50-135	

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 14-08-0425 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 8082	EPA 3545	669	GC 58	1

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Glossary of Terms and Qualifiers

Work Order: 14-08-0425

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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CHAIN-OF-CUSTODY RECORD

DATE: 8/6/14

PAGE: 1 OF 1

WO NO. / LAB USE ONLY

LABORATORY CLIENT: CH2MHill

ADDRESS: 6 Hutton Centre Dr #700

CITY: Santa Ana STATE: Ca ZIP: 92707

TEL: (714) 721-5474 E-MAIL: GEarly@CH2M.Com

CLIENT PROJECT NAME / NO.: Dynegy SBPP / 482070.01.03

P.O. NO.: 482070.1000

PROJECT CONTACT: James Laws

LAB CONTACT OR QUOTE NO.: Virendra

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT) G. Early

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS: LAB to Crush Sample

Send Report To:

GEarly@CH2M.Com

GusThrasher@CH2M.Com

MFoschke@CH2M.Com

James.Laws@CH2M.Com

Robert.Mann@CH2M.Com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 218.6
	SBP-1750-080514	8/6/14	3:00	Conc	1	X													X			

8/7/14 Corrected C.O.C

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
8/6/14	EGI	08/06/14	15:00
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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CHAIN-OF-CUSTODY RECORD

DATE: 8/6/14
PAGE: 1 OF 1

WO NO. / LAB USE ONLY: **14-08-0425**

LABORATORY CLIENT: CH2MHill
ADDRESS: 6 Hutton Centre Dr #700
CITY: Santa Ana STATE: Ca ZIP: 92707
TEL: (714) 721-5474 E-MAIL: GEarly@CH2M.Com

CLIENT PROJECT NAME / NO.: Dynegy SBPP / 482070.01.03
P.O. NO.: 482070.1000
PROJECT CONTACT: James Laws
LAB CONTACT OR QUOTE NO.: Virendra
GLOBAL ID:
LOG CODE:
SAMPLER(S): (PRINT) G. Early

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:
☆ LAB to Crush Sample
Send Report To:
GEarly@CH2M.Com
GusThrasher@CH2M.Com
MPaschke@CH2M.Com
James Laws@CH2M.Com
Robert.Mason@CH2M.Com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
☆ 1	SBPP-1750-080514	8/5/14	3:00	Conc	1	X													X							

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
8/6/14	ECI	08/06/14	15:00
Relinquished by: (Signature)	Received by: (Signature/Affiliation) Danny le ECI	Date: 8/6/14	Time: 19:40
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WORK ORDER #: 14-08-0425

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: CH2MHILL

DATE: 08/06/14

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 1.8 °C - 0.3 °C (CF) = 1.5 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☐ Air ☐ Filter Checked by: 671

CUSTODY SEALS INTACT:

☐ Cooler	☐ _____	☐ No (Not Intact)	☑ Not Present	☐ N/A	Checked by: 671
☑ Sample *	☐ _____	☐ No (Not Intact)	☐ Not Present		Checked by: 778

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Aqueous samples received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfides ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Aqueous: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐1PBna ☐500PB ☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** 778

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** 681

Preservative: h: HCL n: HNO_3 na_2: $Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 u: Ultra-pure znna: $ZnAc_2$+NaOH f: Filtered **Scanned by:** 681

* Seal on bag

SOP T100_090 (06/02/14)