F5 Sampling Description and Results and Mitigation Measures

ADVANCED ENVIRONMENTAL CONCEPTS INC

May 31, 2017

Mr. Michael Di Sano
NCA Real Estate Developers
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

RE: Sampling Description and Results and Mitigation Measures
LCWA Restoration and Oil Consolidation Project Area
E 2nd Street (Westminster Avenue) and Studebaker Road
Long Beach, California

Dear Mr. Di Sano:

Advanced Environmental Concepts, Inc. (AEC) is pleased to present this description of proposed Mitigation Measures related to recently conducted onsite sampling by AEC at the LCWA Restoration and Oil Consolidation Project Area. The initial sampling encompassed 16 locations and based on the analytical results additional areas required additional delineation. Fifteen of the areas sampled are north of East 2nd Street and one location is south of E. 2nd Street; all locations were accessed from Shopkeeper Road in Long Beach, California (Glenn Lukos Associates - Exhibit 1).

1.0 BACKGROUND

Synergy is working in concert with a wetlands restoration specialist (Glenn Lukos Associates) and Lyon Communities, a real estate developer to move the existing oil field operation sited north of East 2nd Street to a 5-acre parcel east of Studebaker Road that is currently owned by the LCWA and an approximate 7-acre parcel currently owned by Lyon Communities (Lyon) that is identified as The Pumpkin Patch. The necessity for two parcels of land is dictated by the presence of the Newport-Inglewood Fault which trends beneath the central portion of the existing 152-acres; directional drilling from the 5-acre parcel of land will access crude oil along the east side of the fault and the directional drilling conducted from The Pumpkin Patch property will allow access to the crude oil along the west side of the fault. The 152-acre portion of the property transfer is proposed for wetlands restoration and will require mass grading to open up natural channels and also create protective berms. Therefore, prior to any soil grading and potential offsite soil removal investigative sampling was conducted to evaluate for the potential presence of anthropogenic chemicals in the oil field production areas and also in the tidal flats and levee embankment of the Steam Shovel Slough.

Initially, AEC toured the subject 152-acres and identified both biased and non-biased sampling locations. The biased sample locations consisted of areas of existing oil field development infrastructure and also a small area south of Steam Shovel Slough where remnant oil field-related waste such as used oil filters derived from servicing the pump jacks; household waste consisting of bottles and cans; and construction waste (wood and roofing products) were observed. Non-biased sampling locations were sited within the tidal influence of the Slough and positioned on the mud flat areas that were devoid of native vegetation; also sampling locations were positioned on the existing Los Cerritos Channel levee

On December 21, 2016 AEC mobilized to the site to perform the soil investigation at the sixteen (16) locations depicted on Exhibit 1 and was accompanied by Mr. David Smith, an environmental specialist from Glenn Lukos Associates. Mr. Smith was onsite to ensure that AEC personnel avoided contact with any sensitive flora and fauna during the sampling process.

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The 16 soil borings were advanced using a hand auger and the soil samples were collected in new glass jars. Upon reaching the desired sampling interval (approximately 1' bgs at most locations), a representative sample of previously undisturbed soil was retrieved by the hand auger. The glass jar was pushed into the auger bucket, filled with soil, and sealed with a Teflon-lined cap. The jar was then labeled and placed in an ice chest chilled with block ice to approximately 4^0 C. The soil samples were recorded on a chain-of-custody and delivered to the California-certified laboratory (Test America – Irvine, Ca) and analyzed for TPH as carbon chain (TPH-cc) by EPA Method 8015M and arsenic and lead by EPA Method 6010B. Also, selected samples were analyzed for Volatile Organic Compounds (VOCs) by EPA Method 8260B and the entire suite of Title 22 Metals. Following completion of the soil sample collection, the borings were backfilled with native soil and a small flag labeled with the boring number was placed in the boring to preserve the identity of the location.

The soil sample results for the most part indicated non-detectable to trace concentrations of TPH-cc, VOCs and the metals lead & arsenic. Soil samples collected from the surface of the levee at the northeast portion of the site (HA-14 and HA-15) indicated non-detectable to trace concentrations of TPH as gasoline, diesel and oil-range hydrocarbons. HA-10, HA-11, HA-13 and HA-16 were all collected from mudflats at various locations within the site; these four locations exhibited non-detectable concentrations of gasoline, diesel and/or oil-range hydrocarbons. HA-1 and HA-2 were collected along hard-packed dirt access roads in the central-west portion of the site and these two sample results exhibited non-detectable to trace concentrations of gasoline, diesel and oil-range hydrocarbons. Finally, locations HA-4, HA-6, HA-7 and HA-8 were collected near surface infrastructure (tanks and product transfer piping) associated with oil field production. These four locations also indicated trace to non-detectable concentrations of TPH as gasoline, diesel and oil-range hydrocarbons (Table 1).

However, there were four sampling locations that exhibited atypical concentrations of hydrocarbons and/or metals; three of these four locations were sited within predicted potential areas of concern. For example; a strong hydrocarbon odor was detected in the soil cuttings generated from boring HA-3 which was positioned near the northwestern tank battery and also from HA-5 positioned near a single tank. Both of these borings exhibited concentrations of diesel and oil-range hydrocarbons that were much higher in comparison to the other sampled locations. Also, boring HA-12 was sited in a mud flat in the central-eastern portion of the property; the surface of this area exhibited intermittent crude oil staining. The soil sample exhibited diesel exceeding its respective RSL. In addition, AEC collected both a discrete and composite soil sample(s) (HA-9) from the area where used oil filters, etc. had been previously disposed. Note that the used oil filters had been removed from the location between the time AEC identified them during October 2016 and the subsequent sampling of December 21, 2016. The soil analytical results indicated "hazardous" concentrations of lead and zinc that exceeded offsite landfill disposal Total Threshold Limit Concentrations (TTLC), therefore, default to a hazardous waste classification. AEC also analyzed soil samples that exhibited elevated metals concentrations from HA-5 and HA-9 for Soluble Threshold Limit Concentration (STLC) for lead since the results exceeded the "10 times the STLC" guideline. The STLC results indicated the STLC results above 5 mg/L.

On February 15, 2017 AEC returned to the site to conduct additional "step-out" soil investigation at the four locations (HA-3 that exhibited hydrocarbon and metals concentrations that were a concern. The two AEC geologists were accompanied by an environmental specialist from Glenn Lukos Associates to ensure that AEC personnel avoided contact with any sensitive flora and fauna during the sampling process. On this date, AEC intended to conduct "step-out" sampling procedures around initial sampling points HA-3, HA-5, HA-5 and HA-12, however, locations HA-9 and HA-12 were underwater from the excessive seasonal rainfall. Therefore, this sampling event concentrated around HA-3 and HA-5 which are at a higher elevation as they are on "pads" that have been constructed with imported base material.

The "step-out" soil borings were advanced using a hand auger and the soil samples were collected in new glass jars. Upon reaching the desired sampling interval (approximately 1', 3' and 6' bgs at most locations), a representative sample of previously undisturbed soil was retrieved by the hand auger. The glass jar was pushed into the auger bucket, filled with soil, and sealed with a Teflon-lined cap. The jar was then labeled and placed in an ice chest chilled with block ice to approximately 4^0 C. The soil samples were recorded on a chain-of-custody and delivered to the California-certified laboratory (Test America – Irvine, Ca) and

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analyzed for TPH as carbon chain (TPH-cc) by EPA Method 8015M and Volatile Organic Compounds (VOCs) by EPA Method 8260B. Following completion of the soil sample collection, the borings were backfilled with native soil and a small flag labeled with the boring number was placed in the boring to preserve the identity of the location.

The site lithology of this area generally consisted of an import base material from grade level to 1.5' bgs which is underlain by a malleable clay to approximately 6' bgs. The clay is water saturated at approximately 3.5' bgs. In the locations investigated proximal to HA-5 there was evidence of free phase hydrocarbons on the potentiometric surface. The most noticeable hydrocarbon stain and odor were prevalent at a depth of approximately 3' to 5' bgs and the field detections of hydrocarbons attenuated rapidly at 6' bgs from the HA-3 locations, however, remained elevated at the majority of the HA-5 locations (Table 2).

On April 18, 2017 AEC returned to the site to conduct additional "step-out" soil investigation at the two locations that were previously underwater (HA-9 and HA-12) that exhibited hydrocarbon and metals concentrations that were a concern. The AEC geologist was again accompanied by an environmental specialist from Glenn Lukos Associates to ensure that AEC personnel avoided contact with any sensitive flora and fauna during the sampling process.

The results of the "step-out" soil sampling from HA-9 indicated elevated TPH-diesel from the sample collected to the north of the initial HA-9 sample point which also correlated with a very high lead detection of 740 mg/kg. This lead sample was also analyzed for STLC and the result indicated 44 mg/L of lead. Also, the "step-out" sampling around HA-12 indicated some higher detections of TPH-diesel and oil-range hydrocarbons, however, only non-detect to trace results for Naphthalene. Sampling at the other locations identified a correlation of high Naphthalene detections to the high diesel and oil-range detections. The contaminated media described from the HA-12 sampling locations indicated an indurated, glassy hydrocarbon which AEC attributed to a weathered asphalt or naturally occurring crude product (Table 3).

2.0 MITIGATION OPTIONS

It is the opinion of AEC that there are currently four Areas of Concern (AOCs) that require mitigation prior to returning the Synergy Oil Field operation to the Los Cerritos Wetlands. The four areas can be further isolated based on the Contaminants of Concern (COCs) that have been previously identified during the investigative phase of this project. The most cost-effective manner of mitigation is to excavate and transport offsite the hydrocarbon and metal-impacted soil.

Therefore, HA-3 and HA-5 will be managed in a similar manner; HA-9 will be individually managed and will HA-12. Although AEC has yet to adequately define the lateral limits of the hydrocarbon migration proximal to the HA-3 and HA-5 locations the mitigation measure prescribed will not change; rather it will only expand in volume of soil to be excavated and transported offsite for disposal. Following demolition of the surface appurtenances proximal to HA-3 and HA-5 locations (tanks and pipelines) AEC recommends using an excavator to remove hydrocarbon-impacted soil from surface to an approximate depth of 6' to 7' below ground surface (bgs). The soil removed will be direct loaded into semi-end dumps operated by a licensed hauler for offsite disposal at the Waste Management Simi Landfill, 2801 N. Madera Road, Simi Valley, California. The Simi Landfill is permitted to accept up to 4,000 mg/kg of gasoline-range hydrocarbon contaminated soil, therefore, the soil previously investigated will be at, or under, that prescribed concentration. A conservative estimate for the soil volume requiring removal from locations HA-3 and HA-5 is approximately 12,000 tons from each location, or an estimated total of 1,091 round trips.

The hydrocarbon and metals-impacted soil from location HA-9 will require disposal at the Waste Management Kettleman Hills Landfill, 35251 Old Skyline Road, Kettleman City, California. AEC proposes to remove the contaminated soil from this area using an excavator and direct load the soil into semi-end dumps operated by a licensed hauler for the offsite disposal. A conservative estimate of this soil volume requiring removal proximal to location HA-9 is estimated at 200 tons, or an estimated total of 9 round trips by the semi-end dump.

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AEC does not recommend offsite disposal of the hydrocarbons identified proximal to HA-12. This AOC appears to be naturally occurring, therefore, should not require offsite disposal. However, AEC does recommend having a geologist onsite during grading to monitor the area during gradinig.

3.0 CLOSING

Advanced Environmental Concepts, Inc. appreciates the opportunity to be of service to you on this project. Should you have any questions or require additional information regarding this document please do not hesitate to contact our office at (661) 395-1646.

Respectfully submitted by:

Advanced Environmental Concepts, Inc.

Jonathan L. Buck
Principal Geologist

REGISTERED GEOLOGIST
JONATHAN L. BUCK
RENEWAL DATE
2/28/19
No. 7468
STATE OF CALIFORNIA

DRAFT

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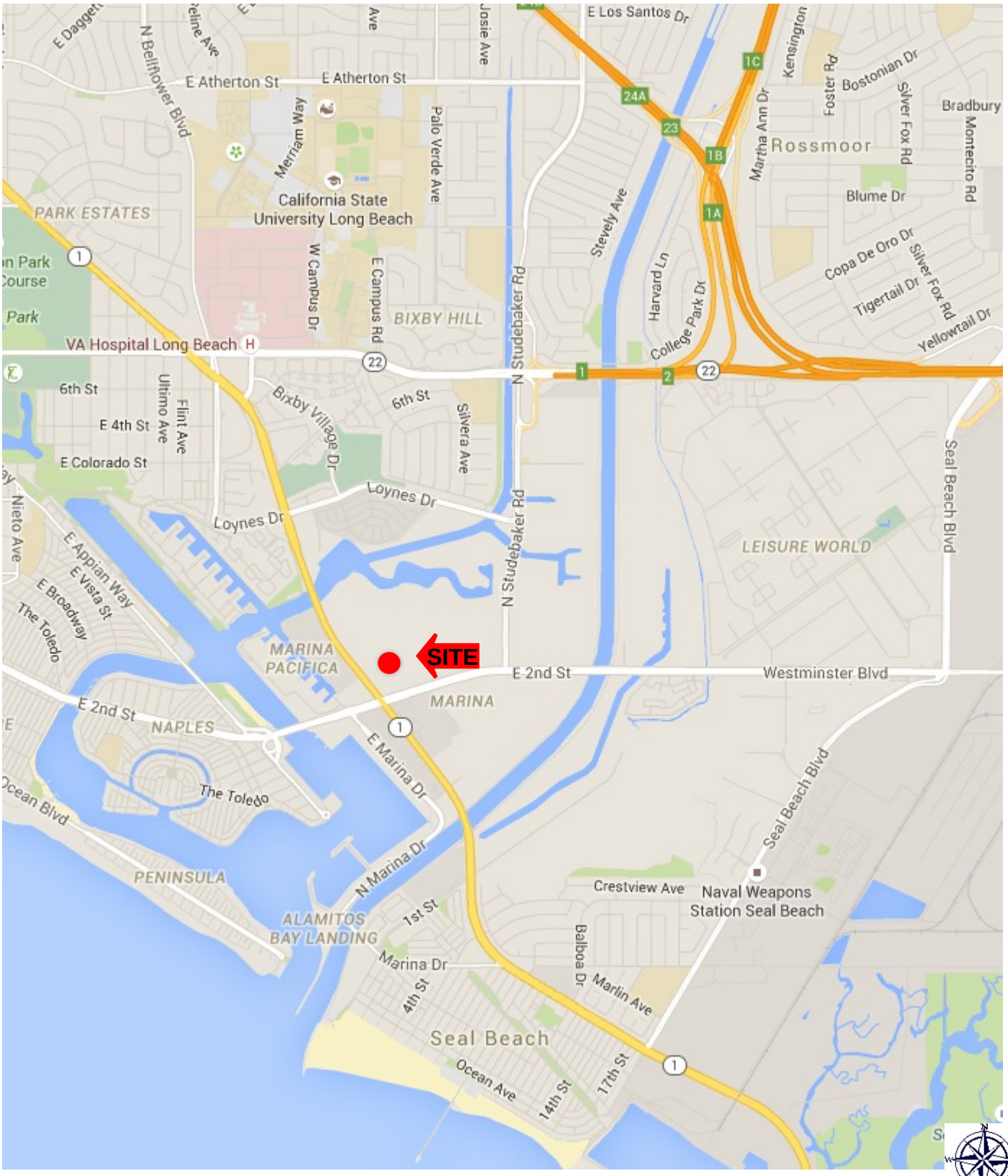
Appendix A

FIGURES



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Site Location Map

Synergy Oil Field - BOMP

North of 2nd Street and East of E. Pacific Coast Hwy
County of Los Angeles ● Long Beach, California

FIGURE

1

LCW RESTORATION AND OIL CONSOLIDATION PROJECT

Soil Sampling Locations

GLENN LUKOS ASSOCIATES

Exhibit 1

- December 2016 Sample Location
- Proposed Sample Location (Note: Samples will be collected 5' north, 10' east, 15' west, 20' south, and 50' south (optional) of Dec. 2016 locations #3, 5, 9, and 12.

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HA-3 Sample Location Map

Synergy Oil Field - BOMP

North of 2nd Street and East of E. Pacific Coast Hwy
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FIGURE

2

Decem er 21-22, 2016 and Auger Sample Location

e ruar 15, 201 and Auger Sample Location

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HA-5 Sample Location Map

Synergy Oil Field - BOMP

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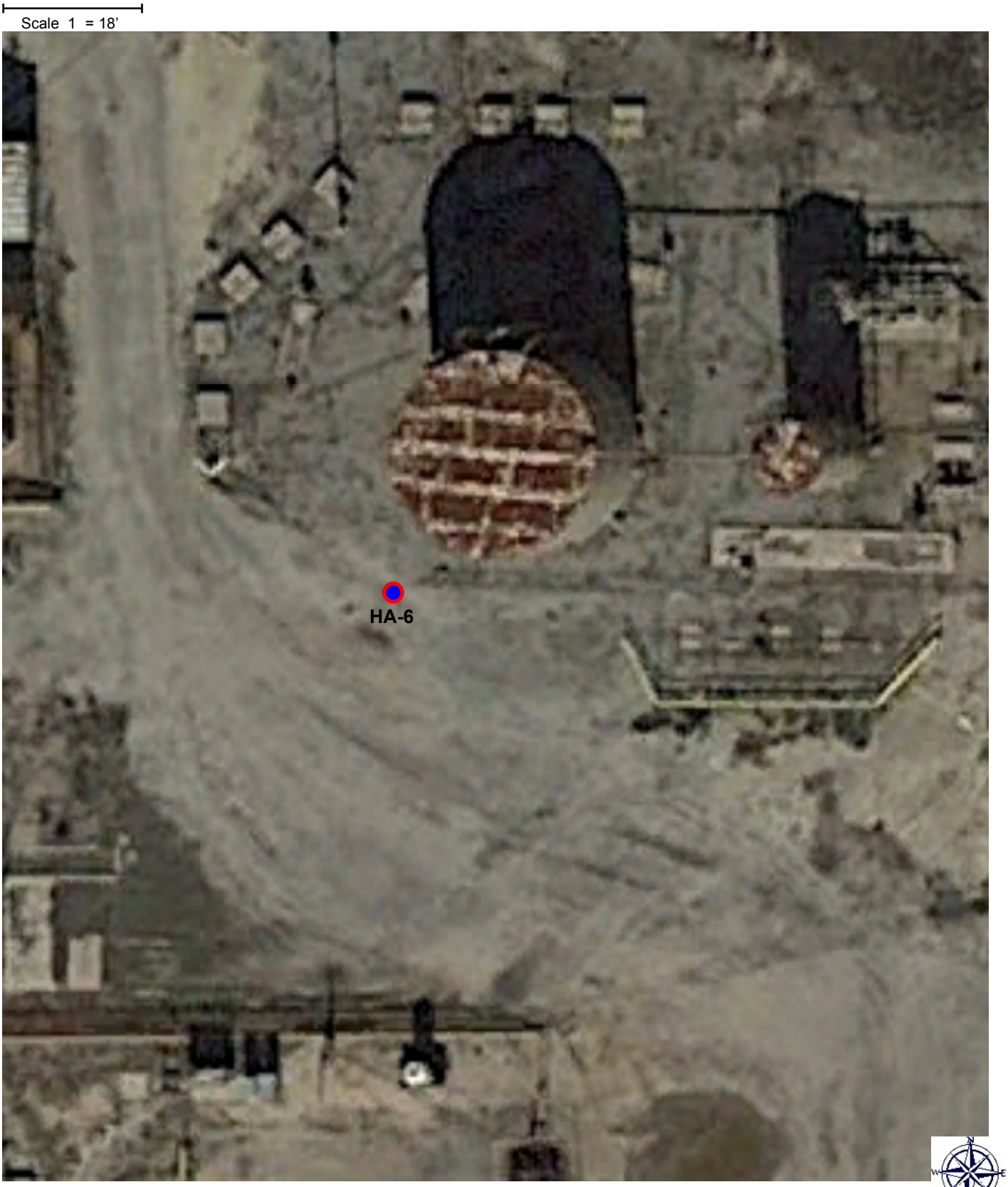
FIGURE

3



Decem er 21-22, 2016 and Auger Sample Location

e ruar 15, 201 and Auger Sample Location

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HA-6 Sample Location Map

Synergy Oil Field - BOMP

North of 2nd Street and East of E. Pacific Coast Hwy
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FIGURE

4

Appendix B

TABULATED ANALYTICAL RESULTS

Table 1
Synergy Oil Field-BOMP
Soil Sample Results
December 21-22, 2016

Parameter	Sample ID / Sample T pe / Sample Date	*May 2016 RSLs* *Industrial*	*Feb 2016 ESLs* *Leaching*	HA-1-1' 12/21/2016	HA-2-1' 12/21/2016	HA-3-1' 12/21/2016	HA-4-1' 12/21/2016	HA-5-1' 12/22/2016	HA-6-1' 12/22/2016	HA-7-1' 12/22/2016	HA-8-1' 12/22/2016	HA-9-0.5' 12/21/2016	HA-9-0.5'-COMP 12/21/2016	HA-10-1' 12/21/2016	HA-11-1' 12/21/2016	HA-12-0.5' 12/21/2016	HA-12-1.5' 12/21/2016	HA-13-1' 12/21/2016	HA-14-1' 12/21/2016	HA-14-2.5' 12/21/2016	HA-15-4' 12/21/2016	HA-16-1' 12/22/2016
Method 8260B																						
1,1,1,2-Tetrac loroet ane	ug/ g	*8,800*	*16,000*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Tric loroet ane	ug/ g	*36,000,000*	*7,800*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrac loroet ane	ug/ g	*2,700*	*7,400*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Tric loroet ane	ug/ g	*5,000*	*66,000*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dic loroet ane	ug/ g	*16,000*	*810*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dic loroet ene	ug/ g	*N/A*	*4,300*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dic loropropene	ug/ g	*N/A*	*N/A*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Tric loro en ene	ug/ g	*930,000*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Tric loropropane	ug/ g	*110*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Tric loro en ene	ug/ g	*110,000*	*7,600*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimet l en ene	ug/ g	*240,000*	*N/A*	NA	NA	**890**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Di romo-3-c loropropane	ug/ g	*64*	*2,200*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Di romoet ane	ug/ g	*160*	*5.7*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dic loro en ene	ug/ g	*9,300,000*	*1,600*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dic loroet ane	ug/ g	*2,000*	*54*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dic loropropane	ug/ g	*4,400*	*190*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimet l en ene	ug/ g	*12,000,000*	*N/A*	NA	NA	**280**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dic loro en ene	ug/ g	*N/A*	*7,400*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dic loropropane	ug/ g	*23,000,000*	*N/A*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dic loro en ene	ug/ g	*11,000*	*1,400*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dic loropropane	ug/ g	*N/A*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-C lorotoluene	ug/ g	*N/A*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-C lorotoluene	ug/ g	*N/A*	*N/A*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ben ene	ug/ g	*5,100*	*49*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromo en ene	ug/ g	*1,800,000*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoc loromet ane	ug/ g	*630,000*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodic loromet ane	ug/ g	*1,300*	*21,000*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	ug/ g	*86,000*	*24,000*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomet ane	ug/ g	*30,000*	*1,500*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Car on tetrac loride	ug/ g	*2,900*	*48*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C loro en ene	ug/ g	*1,300,000*	*1,500*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C loroet ane	ug/ g	*N/A*	*11,000*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C loroform	ug/ g	*1,400*	*68*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C loromet ane	ug/ g	*460,000*	*68,000*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dic loroet ene	ug/ g	*2,300,000*	*3,500*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dic loropropene	ug/ g	*N/A*	*N/A*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di romoc loromet ane	ug/ g	*39,000*	*91,000*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di romomet ane	ug/ g	*99,000*	*N/A*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dic lorodifluoromet ane	ug/ g	*370,000*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isoprop l Et er (DIPE)	ug/ g	*N/A*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Et anol	ug/ g	*N/A*	*N/A*	NA	NA	ND ,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Et l-t- ut l et er (ETBE)	ug/ g	*N/A*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Et l en ene	ug/ g	*25,000*	*N/A*	NA	NA	**58 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
exac loro utadiene	ug/ g	*5,300*	*16,000*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isoprop l en ene	ug/ g	*N/A*	*N/A*	NA	NA	**200**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m and p- lene	ug/ g	*2,400,000*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Met lene c loride	ug/ g	*1,000,000*	*730*	NA	NA	ND 500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Met l-t-But l Et er (MTBE)	ug/ g	*210,000*	*840*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nap t alene	ug/ g	*17,000*	*3,900*	NA	NA	**620**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-But l en ene	ug/ g	*58,000,000*	*N/A*	NA	NA	**540**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Prop l en ene	ug/ g	*N/A*	*N/A*	NA	NA	**360**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o- lene	ug/ g	*2,800,000*	*N/A*	NA	NA	**80 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-But l en ene	ug/ g	*120,000,000*	*N/A*	NA	NA	**480**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
St rene	ug/ g	*35,000,000*	*16,000*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Synergy Oil Field-BOMP
Soil Sample Results
December 21-22, 2016

Parameter	Sample ID / Sample T pe / Sample Date	*May 2016 RSLs* *Industrial*	*Feb 2016 ESLs* *Leaching*	HA-1-1' 12/21/2016	HA-2-1' 12/21/2016	HA-3-1' 12/21/2016	HA-4-1' 12/21/2016	HA-5-1' 12/22/2016	HA-6-1' 12/22/2016	HA-7-1' 12/22/2016	HA-8-1' 12/22/2016	HA-9-0.5' 12/21/2016	HA-9-0.5'-COMP 12/21/2016	HA-10-1' 12/21/2016	HA-11-1' 12/21/2016	HA-12-0.5' 12/21/2016	HA-12-1.5' 12/21/2016	HA-13-1' 12/21/2016	HA-14-1' 12/21/2016	HA-14-2.5' 12/21/2016	HA-15-4' 12/21/2016	HA-16-1' 12/22/2016
Method 8260B																						
Tert-am lmet let er (TAME)	ug/ g	*N/A*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tertiar ut l alco ol (TBA)	ug/ g	*N/A*	*110,000*	NA	NA	ND 2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-But l en ene	ug/ g	*120,000,000*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrac loroet ene	ug/ g	*100,000*	*420*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	ug/ g	*47,000,000*	*9,300*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dic loroet ene	ug/ g	*23,000,000*	*N/A*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dic loropropene	ug/ g	*N/A*	*N/A*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tric loroet ene	ug/ g	*6,000*	*510*	NA	NA	ND 50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tric lorofluoromet ane	ug/ g	*350,000,000*	*N/A*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vin l c loride	ug/ g	*1,700*	*10*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
lenes (Total)	ug/ g	*2,500,000*	*11,000*	NA	NA	ND 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isoprop ltoluene	ug/ g	*N/A*	*N/A*	NA	NA	**290**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Method 6020																						
Lead	mg/ g	*800*	*N/A*	**2.8**	**5.3**	**5.7**	**10**	**70**	**5.1**	**3.6**	**4.5**	**150**	**1,300**	**3**	**6.6**	**21**	**9.8**	**4.2**	**6.3**	**6.1**	**8.6**	**19**
Arsenic	mg/ g	*3*	*N/A*	**1.4**	**3.1**	**3.1**	**6.5**	**5.3**	**1.4**	**2.2**	**3**	**6.1**	**4.7**	**2.4**	**5.5**	**3.8**	**8.8**	**2.6**	**2.6**	**3.7**	**4.6**	**6**
Silver	mg/ g	*5,800*	*N/A*	NA	NA	ND 0 099	NA	NA	NA	NA	NA	NA	**0.73**	NA	NA	**0.23 J**	NA	NA	NA	NA	NA	NA
Barium	mg/ g	*220,000*	*N/A*	NA	NA	**180**	NA	NA	NA	NA	NA	NA	**44**	NA	NA	**150**	NA	NA	NA	NA	NA	NA
Ber llium	mg/ g	*2,300*	*N/A*	NA	NA	**0.43**	NA	NA	NA	NA	NA	NA	ND 0 15	NA	NA	**0.41**	NA	NA	NA	NA	NA	NA
Cadmium	mg/ g	*N/A*	*N/A*	NA	NA	ND 0 25	NA	NA	NA	NA	NA	NA	**5.7**	NA	NA	**0.85**	NA	NA	NA	NA	NA	NA
Co alt	mg/ g	*350*	*N/A*	NA	NA	**9.5**	NA	NA	NA	NA	NA	NA	**6.9**	NA	NA	**6.4**	NA	NA	NA	NA	NA	NA
C romium	mg/ g	*N/A*	*N/A*	NA	NA	**20**	NA	NA	NA	NA	NA	NA	**200**	NA	NA	**17**	NA	NA	NA	NA	NA	NA
Copper	mg/ g	*47,000*	*N/A*	NA	NA	**19**	NA	NA	NA	NA	NA	NA	**81**	NA	NA	**17**	NA	NA	NA	NA	NA	NA
Mol denum	mg/ g	*5,800*	*N/A*	NA	NA	**0.70 J**	NA	NA	NA	NA	NA	NA	**11**	NA	NA	**0.50 J**	NA	NA	NA	NA	NA	NA
Nickel	mg/ g	*N/A*	*N/A*	NA	NA	**15**	NA	NA	NA	NA	NA	NA	**47**	NA	NA	**18**	NA	NA	NA	NA	NA	NA
Selenium	mg/ g	*5,800*	*N/A*	NA	NA	ND 0 20	NA	NA	NA	NA	NA	NA	**0.45 J**	NA	NA	ND 0 20	NA	NA	NA	NA	NA	NA
Antimon	mg/ g	*470*	*N/A*	NA	NA	**0.32 J**	NA	NA	NA	NA	NA	NA	**4.4**	NA	NA	**0.36 J**	NA	NA	NA	NA	NA	NA
T allium	mg/ g	*N/A*	*N/A*	NA	NA	ND 0 25	NA	NA	NA	NA	NA	NA	ND 0 25	NA	NA	ND 0 25	NA	NA	NA	NA	NA	NA
Vanadium	mg/ g	*5,800*	*N/A*	NA	NA	**41**	NA	NA	NA	NA	NA	NA	**60**	NA	NA	**34**	NA	NA	NA	NA	NA	NA
inc	mg/ g	*350,000*	*N/A*	NA	NA	**84**	NA	NA	NA	NA	NA	NA	**8,100**	NA	NA	**91**	NA	NA	NA	NA	NA	NA
Method 7471A																						
Mercur	mg/ g	*46*	*N/A*	NA	NA	**0.013 J**	NA	NA	NA	NA	NA	NA	**1.2**	NA	NA	**0.083**	NA	NA	NA	NA	NA	NA
Method 8015/8260																						
C4-C12 (asoline Range)	mg/ g	*2,200/420*[1]	*3,400*	ND 0 15	ND 0 15	**200**	ND 0 15	ND 0 15	ND 0 15	ND 0 15	ND 0 15	ND 0 15	NA	ND 0 15	ND 0 15	**4.4**	ND 0 15	ND 0 15	ND 0 15	ND 0 15	ND 0 15	ND 0 15
C13-C22 (Diesel Range)	mg/ g	*440/600*[2]	*3,600*	ND 2 5	ND 4 9	**680**	ND 4 9	**320**	ND 2 5	ND 2 5	**16**	**170**	NA	ND 4 9	ND 4 9	**8,200**	ND 4 9	ND 4 9	ND 2 5	**3.9 J**	ND 4 9	**47**
C23-C40 (Oil Range)	mg/ g	*3,500,000/33,000*[3]	*N/A*	**4.0 J**	**10**	**1,200**	**18**	**1,900**	**6.2**	**4.2 J**	**62**	**710**	NA	ND 4 9	ND 4 9	**16,000**	**5.7 J**	ND 4 9	**3.6 J**	**9.5**	ND 4 9	**350**
Method 6010B - STLC Citrate																						
Lead	mg/L	*5*	*N/A*	NA	NA	NA	NA	**1.8**	NA	NA	NA	**9.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Method 6010B - TCLP																						
Lead	mg/L	*5*	*N/A*	NA	NA	NA	NA	NA	NA	NA	NA	**0.24**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ND Not detected a ove Met od Detection Limit (MDL)

N/A Not applica le

NA Not Anal ed

Default order for comparative screening values ased on availa ilit of a screening standard

1) EPA Region 9 Regional Screening Level (RSL) - Ma 2016

2) San rancisco Ba R CB Environmental Screening Level (ESL) e 2016 - Rev 3

Exceeds Ma 2016 EPA Region 9 Regional Screening Level - Industrial Soil

Exceeds e ruar 2016 Environmental Screening Level (ESL) - Leac ing to round ater Nondrinking ater

Met od Detection Level (MDL) exceeds RSL

Met od Detection Level (MDL) exceeds STLC

Met od Detection Level (MDL) exceeds TCLP

Note TP result divided t o (assuming 50 Alip atic and 50 Aromatic) to determine if screening criteria is exceeded

[1]Total Petroleum drocar ons Lo (2,200 mg/kg Alip atic/420 mg/kg Aromatic)

[2]Total Petroleum drocar ons Medium (440 mg/kg Alip atic/600 mg/kg Aromatic)

[3]Total Petroleum drocar ons ig (3,500,000 mg/kg Alip atic/33,000 mg/kg Aromatic)

Table 2
Synergy Oil Field-BOMP
Soil Sample Results
February 15, 2017

Parameter:	Sample ID: / Sample Type: / Sample Date:	*May 2016 RSLs* / *Industrial*	*Feb 2016 ESLs* / *Leaching*	**HA-3-N-1'**	**HA-3-N-3'**	**HA-3-N-6'**	**HA-3-E-1'**	**HA-3-E-3'**	**HA-3-E-6'**	**HA-3-S-30'-1'**	**HA-3-S-30'-3'**	**HA-3-S-30'-6'**	**HA-5-N-1'**	**HA-5-N-3'**	**HA-5-N-6'**	**HA-5-E-1'**	**HA-5-E-3'**	**HA-5-E-6'**	**HA-5-W-1'**	**HA-5-W-3'**	**HA-5-S-1'**	**HA-5-S-3'**	**HA-5-W-50'-1'**	**HA-5-W-50'-3'**	**HA-5-W-50'-6'**	**HA-6-6'**
				2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017
Method 8260B																										
1,1,1,2-Tetrachloroethane	ug/Kg	*8,800*	*16,000*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
1,1,1-Trichloroethane	ug/Kg	*36,000,000*	*7,800*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,1,2,2-Tetrachloroethane	ug/Kg	*2,700*	*7,400*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,1,2-Trichloroethane	ug/Kg	*5,000*	*66,000*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,1-Dichloroethane	ug/Kg	*16,000*	*810*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,1-Dichloroethene	ug/Kg	*N/A*	*4,300*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
1,1-Dichloropropene	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,2,3-Trichlorobenzene	ug/Kg	*930,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
1,2,3-Trichloropropane	ug/Kg	*110*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
1,2,4-Trichlorobenzene	ug/Kg	*110,000*	*7,600*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
1,2,4-Trimethylbenzene	ug/Kg	*240,000*	*N/A*	**8.6 J**	ND<0.99	ND<0.99	**210**	ND<50	**2**	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	**1,500**	ND<1.0	ND<50	ND<50	**2,000**	ND<0.99	ND<0.99	ND<0.99
1,2-Dibromo-3-chloropropane	ug/Kg	*64*	*2,200*	ND<9.8	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<100	ND<400	ND<2.0	ND<100	ND<100	ND<200	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	ug/Kg	*160*	*5.7*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,2-Dichlorobenzene	ug/Kg	*9,300,000*	*1,600*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,2-Dichloroethane	ug/Kg	*2,000*	*54*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,2-Dichloropropane	ug/Kg	*4,400*	*190*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,3,5-Trimethylbenzene	ug/Kg	*12,000,000*	*N/A*	**7.2 J**	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	**240 J**	ND<1.0	ND<50	ND<50	**280**	ND<0.99	ND<0.99	ND<0.99
1,3-Dichlorobenzene	ug/Kg	*N/A*	*7,400*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,3-Dichloropropane	ug/Kg	*23,000,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
1,4-Dichlorobenzene	ug/Kg	*11,000*	*1,400*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
2,2-Dichloropropane	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
2-Chlorotoluene	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
4-Chlorotoluene	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Benzene	ug/Kg	*5,100*	*49*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Bromobenzene	ug/Kg	*1,800,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Bromochloromethane	ug/Kg	*630,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Bromodichloromethane	ug/Kg	*1,300*	*21,000*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Bromoform	ug/Kg	*86,000*	*24,000*	ND<9.8	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<100	ND<400	ND<2.0	ND<100	ND<100	ND<200	ND<2.0	ND<2.0	ND<2.0
Bromomethane	ug/Kg	*30,000*	*1,500*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Carbon tetrachloride	ug/Kg	*2,900*	*48*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Chlorobenzene	ug/Kg	*1,300,000*	*1,500*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Chloroethane	ug/Kg	*N/A*	*11,000*	ND<9.8	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<100	ND<400	ND<2.0	ND<100	ND<100	ND<200	ND<2.0	ND<2.0	ND<2.0
Chloroform	ug/Kg	*1,400*	*68*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Chloromethane	ug/Kg	*460,000*	*68,000*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
cis-1,2-Dichloroethene	ug/Kg	*2,300,000*	*3,500*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
cis-1,3-Dichloropropene	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Dibromochloromethane	ug/Kg	*39,000*	*91,000*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Dibromomethane	ug/Kg	*99,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Dichlorodifluoromethane	ug/Kg	*370,000*	*N/A*	ND<9.8	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<100	ND<400	ND<2.0	ND<100	ND<100	ND<200	ND<2.0	ND<2.0	ND<2.0
Isopropyl Ether (DIPE)	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Ethanol	ug/Kg	*N/A*	*N/A*	ND<490	ND<99	ND<99	ND<7,500	ND<7,500	ND<100	ND<100	ND<99	ND<100	ND<99	ND<7,500	ND<7,500	ND<99	ND<100	ND<7,500	ND<30,000	ND<100	ND<7,500	ND<7,500	ND<15,000	ND<99	ND<99	ND<99
Ethyl-t-butyl ether (ETBE)	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Ethylbenzene	ug/Kg	*25,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	**240**	**130**	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	**4,100**	**15**	**540**	**910**	**590**	**1.1 J**	ND<0.99	ND<0.99
Hexachlorobutadiene	ug/Kg	*5,300*	*16,000*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Isopropylbenzene	ug/Kg	*N/A*	*N/A*	**5.9 J**	ND<0.99	ND<0.99	**3,200**	**8,500**	**27**	ND<1.0	ND<0.99	ND<1.0	ND<0.99	**880**	**1,100**	ND<0.99	**16**	**1,400**	**3,800**	**11**	**1,200**	**1,300**	**850**	**1.9 J**	ND<0.99	ND<0.99
m and p-Xylene	ug/Kg	*2,400,000*	*N/A*	ND<9.8	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<100	ND<400	ND<2.0	ND<100	ND<100	ND<200	ND<2.0	ND<2.0	ND<2.0
Methylene chloride	ug/Kg	*1,000,000*	*730*	ND<25	**5.1 J**	**5.6 J**	ND<500	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	**9.3 J**	ND<500	ND<500	ND<5.0	ND<5.0	ND<500	ND<2,000	ND<5.0	ND<500	ND<500	ND<1,000	ND<5.0	ND<5.0	ND<5.0
Methyl-t-Butyl Ether (MTBE)	ug/Kg	*210,000*	*840*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Naphthalene	ug/Kg	*17,000*	*3,900*	ND<9.8	ND<2.0	ND<2.0	**2,500**	**4,800**	**21**	ND<2.0	ND<2.0	ND<2.0	ND<2.0	**970**	**1,100**	ND<2.0	**19**	**870**	**5,300**	**11**	**3,800**	**2,100**	**250 J**	**3.7 J**	ND<2.0	ND<2.0
n-Butylbenzene	ug/Kg	*58,000,000*	*N/A*	**5.3 J**	ND<0.99	ND<0.99	**600**	**1,300**	**2.6 J**	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	**330**	ND<0.99	ND<1.0	**160 J**	**1,800**	**1.4 J**	**1,300**	**460**	**850**	**1.3 J**	ND<0.99	ND<0.99
N-Propylbenzene	ug/Kg	*N/A*	*N/A*	**5.6 J**	ND<0.99	ND<0.99	**4,100**	**9,600**	**36**	ND<1.0	ND<0.99	ND<1.0	ND<0.99	**130**	**1,400**	ND<0.99	**2.8**	**2,000**	**5,300**	**13**	**1,900**	**1,900**	**1,200**	**3.2**	ND<0.99	ND<0.99
o-Xylene	ug/Kg	*2,800,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<400	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
sec-Butylbenzene	ug/Kg	*120,000,000*	*N/A*	**5.6 J**	ND<0.99	ND<0.99	**1,800**	**3,900**	**9.4**	ND<1.0	ND<0.99	ND<1.0	ND<0.99	**730**	**830**	ND<0.99	**13**	**1,000**	**3,000**	**3.9 J**	**1,700**	**1,000**	**940**	**2.2 J**	ND<0.99	ND<0.99
Styrene	ug/Kg	*35,000,000*	*16,000*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Tert-amylmethylether (TAME)	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Tertiary butyl alcohol (TBA)	ug/Kg	*N/A*	*110,000*	ND<49	ND<9.9	ND<9.9	ND<2,500	ND<2,500	ND<10	ND<10	ND<9.9	ND<10	ND<9.9	ND<2,500	ND<2,500	ND<9.9	ND<10	ND<2,500	ND<10,000	ND<10	ND<2,500	ND<2,500	ND<5,000	ND<9.9	ND<9.9	ND<9.9
tert-Butylbenzene	ug/Kg	*120,000,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Tetrachloroethene	ug/Kg	*100,000*	*420*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Toluene	ug/Kg	*47,000,000*	*9,300*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
trans-1,2-Dichloroethene	ug/Kg	*23,000,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
trans-1,3-Dichloropropene	ug/Kg	*N/A*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99
Trichloroethene	ug/Kg	*6,000*	*510*	ND<4.9	ND<0.99	ND<0.99	ND<50	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	ND<200	ND<1.0	ND<50	ND<50	ND<100	ND<0.99	ND<0.99	ND<0.99

Table 2
Synergy Oil Field-BOMP
Soil Sample Results
February 15, 2017

Parameter:	Sample ID: / Sample Type: / Sample Date:	*May 2016 RSLs* / *Industrial*	*Feb 2016 ESLs* / *Leaching*	**HA-3-N-1'**	**HA-3-N-3'**	**HA-3-N-6'**	**HA-3-E-1'**	**HA-3-E-3'**	**HA-3-E-6'**	**HA-3-S-30'-1'**	**HA-3-S-30'-3'**	**HA-3-S-30'-6'**	**HA-5-N-1'**	**HA-5-N-3'**	**HA-5-N-6'**	**HA-5-E-1'**	**HA-5-E-3'**	**HA-5-E-6'**	**HA-5-W-1'**	**HA-5-W-3'**	**HA-5-S-1'**	**HA-5-S-3'**	**HA-5-W-50'-1'**	**HA-5-W-50'-3'**	**HA-5-W-50'-6'**	**HA-6-6'**
				2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017
Method 8260B																										
Trichlorofluoromethane	ug/Kg	*350,000,000*	*N/A*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Vinyl chloride	ug/Kg	*1,700*	*10*	ND<4.9	ND<0.99	ND<0.99	ND<100	ND<100	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<100	ND<100	ND<0.99	ND<1.0	ND<100	ND<400	ND<1.0	ND<100	ND<100	ND<200	ND<0.99	ND<0.99	ND<0.99
Xylenes (Total)	ug/Kg	*2,500,000*	*11,000*	ND<9.8	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<100	ND<2.0	ND<2.0	ND<100	ND<400	ND<2.0	ND<100	ND<100	ND<200	ND<2.0	ND<2.0	ND<2.0
p-Isopropyltoluene	ug/Kg	*N/A*	*N/A*	**6.3 J**	ND<0.99	ND<0.99	**200**	ND<50	ND<1.0	ND<1.0	ND<0.99	ND<1.0	ND<0.99	ND<50	ND<50	ND<0.99	ND<1.0	ND<50	**1,400**	ND<1.0	**110**	ND<50	**1,200**	ND<0.99	ND<0.99	ND<0.99
Method 8015/8260																										
C4-C12 (Gasoline Range)	mg/Kg	*2,200/420*[1]	*3,400*	**24**	ND<0.069	ND<0.069	**2,400**	**4,900**	**3.5**	ND<0.070	ND<0.069	ND<0.070	ND<0.069	**280**	**620**	ND<0.070	**37**	**740**	**1,200**	**1.6**	**1,200**	**670**	**600**	**0.82**	**0.14**	ND<0.069
C13-C22 (Diesel Range)	mg/Kg	*440/600*[2]	*3,600*	**5,000**	ND<5.0	ND<4.9	**1,800**	**960**	**9.1 J**	ND<4.9	ND<5.0	ND<5.0	**450**	**780**	**630**	**170**	**580**	**690**	**1,600**	**17**	**2,400**	**970**	**1,000**	**29**	ND<5.0	ND<4.9
C23-C40 (Oil Range)	mg/Kg	*3,500,000/33,000*[3]	*N/A*	**11,000**	**6.3 J**	**8.4 J**	**5,600**	**3,900**	**32**	ND<4.9	ND<5.0	ND<5.0	**1,400**	**1,900**	**1,500**	**1,000**	**1,400**	**1,500**	**4100**	**59**	**4,900**	**1,800**	**2,400**	**93**	ND<5.0	ND<4.9

ND: Not detected above Method Detection Limit (MDL)

N/A: Not applicable

NA: Not Analyzed

Default order for comparative screening values based on availability of a screening standard:

1) EPA Region 9 Regional Screening Level (RSL) - May 2016

2) San Francisco Bay RWQCB Environmental Screening Level (ESL) Feb 2016 - Rev. 3

Exceeds May 2016 EPA Region 9 Regional Screening Level - Industrial Soil

Exceeds February 2016 Environmental Screening Level (ESL) - Leaching to Groundwater Nondrinking Water

Method Detection Level (MDL) exceeds RSL

Table 3
Synergy Oil Field-BOMP
Soil Sample Results
December 21, 2016 and April 18, 2017

Parameter:	Sample ID: / Sample Type: / Sample Date:	May 2016 RSLs Industrial	Feb 2016 ESLs Leaching	HA-9-0.5'	HA-9-0.5'-COMP	HA-9-N-0.5'	HA-9-S-0.5'	HA-9-W-0.5'	HA-9-E-0.5'	HA-12-0.5'	HA-12-1.5'	HA-12-W-Surface	HA-12-N-Surface	HA-12-S-0.5'	HA-12-E-1'
	Sample Date:			12/21/2016	12/21/2016	4/18/2017	4/18/2017	4/18/2017	4/18/2017	12/21/2016	12/21/2016	4/18/2017	4/18/2017	4/18/2017	4/18/2017
Method 8260B															
1,1,1,2-Tetrachloroethane	ug/Kg	8,800	16,000	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,1,1-Trichloroethane	ug/Kg	36,000,000	7,800	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,1,2,2-Tetrachloroethane	ug/Kg	2,700	7,400	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,1,2-Trichloroethane	ug/Kg	5,000	66,000	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,1-Dichloroethane	ug/Kg	16,000	810	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,1-Dichloroethene	ug/Kg	N/A	4,300	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,1-Dichloropropene	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,2,3-Trichlorobenzene	ug/Kg	930,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,2,3-Trichloropropane	ug/Kg	110	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,2,4-Trichlorobenzene	ug/Kg	110,000	7,600	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,2,4-Trimethylbenzene	ug/Kg	240,000	N/A	NA	NA	**12**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	**4**	**8.6**
1,2-Dibromo-3-chloropropane	ug/Kg	64	2,200	NA	NA	ND<2.0	ND<1.9	ND<2.0	ND<2.0	NA	NA	ND<2.0	ND<2.0	ND<2.0	ND<2.0
1,2-Dibromoethane	ug/Kg	160	5.7	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,2-Dichlorobenzene	ug/Kg	9,300,000	1,600	NA	NA	**29**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,2-Dichloroethane	ug/Kg	2,000	54	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,2-Dichloropropane	ug/Kg	4,400	190	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,3,5-Trimethylbenzene	ug/Kg	12,000,000	N/A	NA	NA	**4.8**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	**1.6 J**	**3.3**
1,3-Dichlorobenzene	ug/Kg	N/A	7,400	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,3-Dichloropropane	ug/Kg	23,000,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
1,4-Dichlorobenzene	ug/Kg	11,000	1,400	NA	NA	**8.1**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
2,2-Dichloropropane	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
2-Chlorotoluene	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
4-Chlorotoluene	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Benzene	ug/Kg	5,100	49	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Bromobenzene	ug/Kg	1,800,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Bromochloromethane	ug/Kg	630,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Bromodichloromethane	ug/Kg	1,300	21,000	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Bromoform	ug/Kg	86,000	24,000	NA	NA	ND<2.0	ND<1.9	ND<2.0	ND<2.0	NA	NA	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Bromomethane	ug/Kg	30,000	1,500	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Carbon tetrachloride	ug/Kg	2,900	48	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Chlorobenzene	ug/Kg	1,300,000	1,500	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Chloroethane	ug/Kg	N/A	11,000	NA	NA	ND<2.0	ND<1.9	ND<2.0	ND<2.0	NA	NA	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Chloroform	ug/Kg	1,400	68	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Chloromethane	ug/Kg	460,000	68,000	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
cis-1,2-Dichloroethene	ug/Kg	2,300,000	3,500	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
cis-1,3-Dichloropropene	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Dibromochloromethane	ug/Kg	39,000	91,000	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Dibromomethane	ug/Kg	99,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Dichlorodifluoromethane	ug/Kg	370,000	N/A	NA	NA	ND<2.0	ND<1.9	ND<2.0	ND<2.0	NA	NA	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Isopropyl Ether (DIPE)	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Ethanol	ug/Kg	N/A	N/A	NA	NA	ND<98	ND<97	ND<100	ND<99	NA	NA	ND<99	ND<100	ND<98	ND<100
Ethyl-t-butyl ether (ETBE)	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Ethylbenzene	ug/Kg	25,000	N/A	NA	NA	**16**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	**1.1 J**
Hexachlorobutadiene	ug/Kg	5,300	16,000	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Isopropylbenzene	ug/Kg	N/A	N/A	NA	NA	**2.2**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	**1.0 J**
m and p-Xylene	ug/Kg	2,400,000	N/A	NA	NA	**61**	ND<1.9	ND<2.0	ND<2.0	NA	NA	ND<2.0	ND<2.0	ND<2.0	ND<2.0
Methylene chloride	ug/Kg	1,000,000	730	NA	NA	**5.6 J**	ND<4.9	ND<5.0	ND<5.0	NA	NA	ND<5.0	ND<5.0	ND<4.9	ND<5.0
Methyl-t-Butyl Ether (MTBE)	ug/Kg	210,000	840	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Naphthalene	ug/Kg	17,000	3,900	NA	NA	**180**	ND<1.9	ND<2.0	ND<2.0	NA	NA	ND<2.0	ND<2.0	**3.5 J**	**5.4**
n-Butylbenzene	ug/Kg	58,000,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
N-Propylbenzene	ug/Kg	N/A	N/A	NA	NA	**2**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	**1.5 J**
o-Xylene	ug/Kg	2,800,000	N/A	NA	NA	**25**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
sec-Butylbenzene	ug/Kg	120,000,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	**1.2 J**
Styrene	ug/Kg	35,000,000	16,000	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Tert-amylmethylether (TAME)	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Tertiary butyl alcohol (TBA)	ug/Kg	N/A	110,000	NA	NA	ND<9.8	ND<9.7	ND<10	ND<9.9	NA	NA	ND<9.9	ND<10	ND<9.8	ND<10
tert-Butylbenzene	ug/Kg	120,000,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Tetrachloroethene	ug/Kg	100,000	420	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Toluene	ug/Kg	47,000,000	9,300	NA	NA	**3.7**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
trans-1,2-Dichloroethene	ug/Kg	23,000,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
trans-1,3-Dichloropropene	ug/Kg	N/A	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Trichloroethene	ug/Kg	6,000	510	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Trichlorofluoromethane	ug/Kg	350,000,000	N/A	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Vinyl chloride	ug/Kg	1,700	10	NA	NA	ND<0.98	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Xylenes (Total)	ug/Kg	2,500,000	11,000	NA	NA	**86**	ND<1.9	ND<2.0	ND<2.0	NA	NA	ND<2.0	ND<2.0	ND<2.0	ND<2.0
p-Isopropyltoluene	ug/Kg	N/A	N/A	NA	NA	**1.5 J**	ND<0.97	ND<1.0	ND<0.99	NA	NA	ND<0.99	ND<1.0	ND<0.98	ND<1.0
Method 8015/8260															
C4-C12 (Gasoline Range)	mg/Kg	2,200/420[1]	3,400	ND<0.15	NA	**0.37**	ND<0.068	ND<0.070	ND<0.070	**4.4**	ND<0.15	ND<0.069	ND<0.070	**0.47**	**1**
C13-C22 (Diesel Range)	mg/Kg	440/600[2]	3,600	**170**	NA	**15,000**	**140**	**140**	**150**	**8,200**	ND<4.9	**150 J**	ND<50	**1,200**	**940**
C23-C40 (Oil Range)	mg/Kg	3,500,000/33,000[3]	N/A	**710**	NA	**16,000**	**220**	**200**	**790**	**16,000**	**5.7 J**	**500**	**150**	**2,100**	**1,800**
Method 6010B															
Lead	mg/Kg	800	N/A	**150**	**1,300**	**740**	**6.3**	**50**	**640**	**21**	**9.8**	NA	NA	NA	NA
Arsenic	mg/Kg	3	N/A	**6.1**	**4.7**	**5.2**	**2.6**	**3.6**	**7.3**	**3.8**	**8.8**	NA	NA	NA	NA
Silver	mg/Kg	5,800	N/A	NA	**0.73**	ND<0.087	ND<0.094	ND<0.091	ND<0.086	**0.23 J**	NA	NA	NA	NA	NA
Barium	mg/Kg	220,000	N/A	NA	**44**	**1,000**	**100**	**880**	**720**	**150**	NA	NA	NA	NA	NA
Beryllium	mg/Kg	2,300	N/A	NA	ND<0.15	**0.17 J**	**0.7**	**0.65**	**0.51**	**0.41**	NA	NA	NA	NA	NA
Cadmium	mg/Kg	N/A	N/A	NA	**5.7**	**2.1**	**0.065 J**	**0.23**	**0.48**	**0.85**	NA	NA	NA	NA	NA
Cobalt	mg/Kg	350	N/A	NA	**6.9**	**6**	**6.7**	**6.4**	**6.6**	**6.4**	NA	NA	NA	NA	NA
Chromium	mg/Kg	N/A	N/A	NA	**200**	**27**	**20**	**21**	**27**	**17**	NA	NA	NA	NA	NA
Copper	mg/Kg	47,000	N/A	NA	**81**	**230**	**11**	**31**	**130**	**17**	NA	NA	NA	NA	NA
Molybdenum	mg/Kg	5,800	N/A	NA	**11**	**1.8 J**	ND<0.78	**1.6 J**	ND<0.71	**0.50 J**	NA	NA	NA	NA	NA
Nickel	mg/Kg	N/A	N/A	NA	**47**	**35**	**12**	**21**	**24**	**18**	NA	NA	NA	NA	NA
Selenium	mg/Kg	5,800	N/A	NA	**0.45 J**	ND<1.4	ND<1.5	ND<1.4	ND<1.3	ND<0.20	NA	NA	NA	NA	NA
Antimony	mg/Kg	470	N/A	NA	**4.4**	**28**	ND<0.98	ND<0.95	**1.1 J**	**0.36 J**	NA	NA	NA	NA	NA
Thallium	mg/Kg	N/A	N/A	NA	ND<0.25	ND<0.82	**0.89 J**	ND<0.85	ND<0.80	ND<0.25	NA	NA	NA	NA	NA
Vanadium	mg/Kg	5,800	N/A	NA	**60**	**23**	**35**	**44**	**40**	**34**	NA	NA	NA	NA	NA
Zinc	mg/Kg	350,000	N/A	NA	**8,100**	**2,500**	**41**	**130**	**640**	**91**	NA	NA	NA	NA	NA
Method 6010B - STLC Citrate															
Lead	mg/L	5	N/A	NA	NA	**44**	**0.061 J**	**2.2**	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	100	N/A	NA	NA	**5.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	250	N/A	NA	NA	**87**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Method 7471A															
Mercury	mg/Kg	46	N/A	NA	**1.2**	**1.9**	**0.015 J**	**0.034 J**	**0.71**	**0.083**	NA	NA	NA	NA	NA

ND: Not detected above Method Detection Limit (MDL)

N/A: Not applicable

NA: Not Analyzed

Default order for comparative screening values based on availability of a screening standard:

1) EPA Region 9 Regional Screening Level (RSL) - May 2016

2) San Francisco Bay RWQCB Environmental Screening Level (ESL) Feb 2016 - Rev. 3

Exceeds May 2016 EPA Region 9 Regional Screening Level - Industrial Soil

Exceeds February 2016 Environmental Screening Level (ESL) - Leaching to Groundwater Nondrinking Water

Method Detection Level (MDL) exceeds RSL

Method Detection Level (MDL) exceeds STLC

Note: TPH result divided by two (assuming 50% Aliphatic and 50% Aromatic) to determine if screening criteria is exceeded.

[1]Total Petroleum Hydrocarbons Low (2,200 mg/kg Aliphatic/420 mg/kg Aromatic)

[2]Total Petroleum Hydrocarbons Medium (440 mg/kg Aliphatic/600 mg/kg Aromatic)

[3]Total Petroleum Hydrocarbons High (3,500,000 mg/kg Aliphatic/33,000 mg/kg Aromatic)

F6 Asbestos and Lead-Based Paint Sampling

ADVANCED ENVIRONMENTAL CONCEPTS INC

June 8, 2017

Mr. Michael Di Sano
Beach Oil Mineral Partners
c/o: NCA Real Estate
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Re: Asbestos and Lead-Based Paint Sampling
Bixby Structure and Tank Batteries/Pipelines
Approximate 154-acre Synergy Oil Field Site
Westminster and Studebaker
Long Beach, California

Dear Mr. Di Sano;

Advanced Environmental Concepts, Inc. (AEC) recommends prior to initiating moving and/or renovation of the Bixby Structure and demolition of the tank batteries and delivery pipelines that asbestos and lead-based paint testing occur. AEC recommends having an Environmental Professional certified in asbestos and lead-based paint sampling conduct the necessary testing prior to renovation and/or demolition of the surface appurtenances. The volume of samples collected will be at the discretion of the Environmental Professional and determined while in the field.

Sincerely,

Jonathan L. Buck
California Register Geologist #7468

REGISTERED GEOLOGIST
JONATHAN L. BUCK
RENEWAL DATE
2/28/19
No. 7468
STATE OF CALIFORNIA

220 E. TRUXTUN AVENUE BAKERSFIELD, CA 93305 661/395-1646 FAX 661/395-1616

F7 Proposed Sampling Locations

ADVANCED ENVIRONMENTAL CONCEPTS INC

June 8, 2017

Mr. Michael Di Sano
Beach Oil Mineral Partners
c/o: NCA Real Estate
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Re: Proposed Sampling Locations
Approximate 33-acre Synergy (City) Oil Field Site
Westminster and Studebaker
Long Beach, California

Mr. Di Sano;

Per your request, Advanced Environmental Concepts, Inc. (AEC) has prepared this summary Work Plan for soil testing proximal to oil field aboveground storage tanks (ASTs) within the central-western portion of the approximate 33-acre Synergy (City) Oil Field Site, Westminster and Studebaker, Long Beach, California. The proposed area to be investigated is described on the attached Figure 2.

Background

Public comments have been received regarding whether there is contamination of the soil in the area of the tank batteries. Therefore, BOMP retained Advanced Environmental Concepts, Inc. (AEC) to conduct a Phase II Environmental Assessment.

Proposed Scope of Work

AEC is proposing to use a hand auger to sample an unknown number of locations and collect soil samples from each sample point at 1', 3' and 6' bgs within the approximate 33-acre Synergy (City) Oil Field. The proposed sampling locations will be proximal to the aboveground tank battery in the central-western portion of the site. AEC intends to collect samples from boring locations that extend out at "staggered" increments of 20-feet to identify the potential extent of any hydrocarbon-impacted soils. Prior to sample collection, AEC will conduct a site walk with the specialist from Glenn Lukos Associates (GLA) to avoid impacts to sensitive habitat or wetlands. As before, the sampling will be monitored by a GLA biological monitor. The samples will be collected at depths ranging from 1' to 6'bgs.

Equipment

If a hand auger is used to conduct the sampling, the work will require two individuals onsite. The hand auger consists of a 3 ¼ inch regular auger head, a 72 inch extension rod, and a T handle. One person will do the hand augering, and the other will help with sample collection. However, AEC prefers to conduct the required sampling using a GeoProbe drill rig mounted on a 1-ton pickup (in areas that are accessible). In areas of surface impediments (pipelines, tanks) or in areas of sensitive vegetation AEC will use the hand auger to conduct the borings. The GeoProbe will collect the soil samples in a 1.75-inch diameter sampler.

DRAFT

220 E. TRUXTUN AVENUE BAKERSFIELD, CA 93305 661/395-1646 FAX 661/395-1616

Sampling Locations

Utilizing similar procedures and protocols as the December 2016 and February 2017 sampling program conducted at the approximate 154-acre Synergy Oil Field Site, GLA and AEC will identify sampling locations on unvegetated or previously-disturbed areas, including unpaved roads.

Duration

The duration of the work is estimated to take a maximum of one week of field work.

Protective Measures

The following measures will be incorporated to avoid impacts to sensitive habitat and vegetation:

Prior to sampling, the GLA biological monitor will conduct an onsite contractor education session with AEC. The purpose of the session will be to inform the workers of the sensitive habitat throughout the site and explain the means by which the sampling locations will be accessed. The GLA biological monitor will scout the path to and from the sampling locations and will select routes that avoid unvegetated areas and minimize the potential for trampling any existing vegetation. The GLA biological monitor will accompany AEC to each sampling location and will be onsite to monitor the work. Effort will be made to collect samples within areas that are unvegetated. All work is proposed to take place outside of the avian nesting season.

AEC appreciates the opportunity to provide this work plan for your review. Should you have any questions, or require clarification please do not hesitate to contact the undersigned at your convenience.

Sincerely,

Jonathan L. Buck
California Register Geologist #7468

REGISTERED GEOLOGIST
JONATHAN L. BUCK
RENEWAL DATE
2/28/19
No. 7468
STATE OF CALIFORNIA

DRAFT

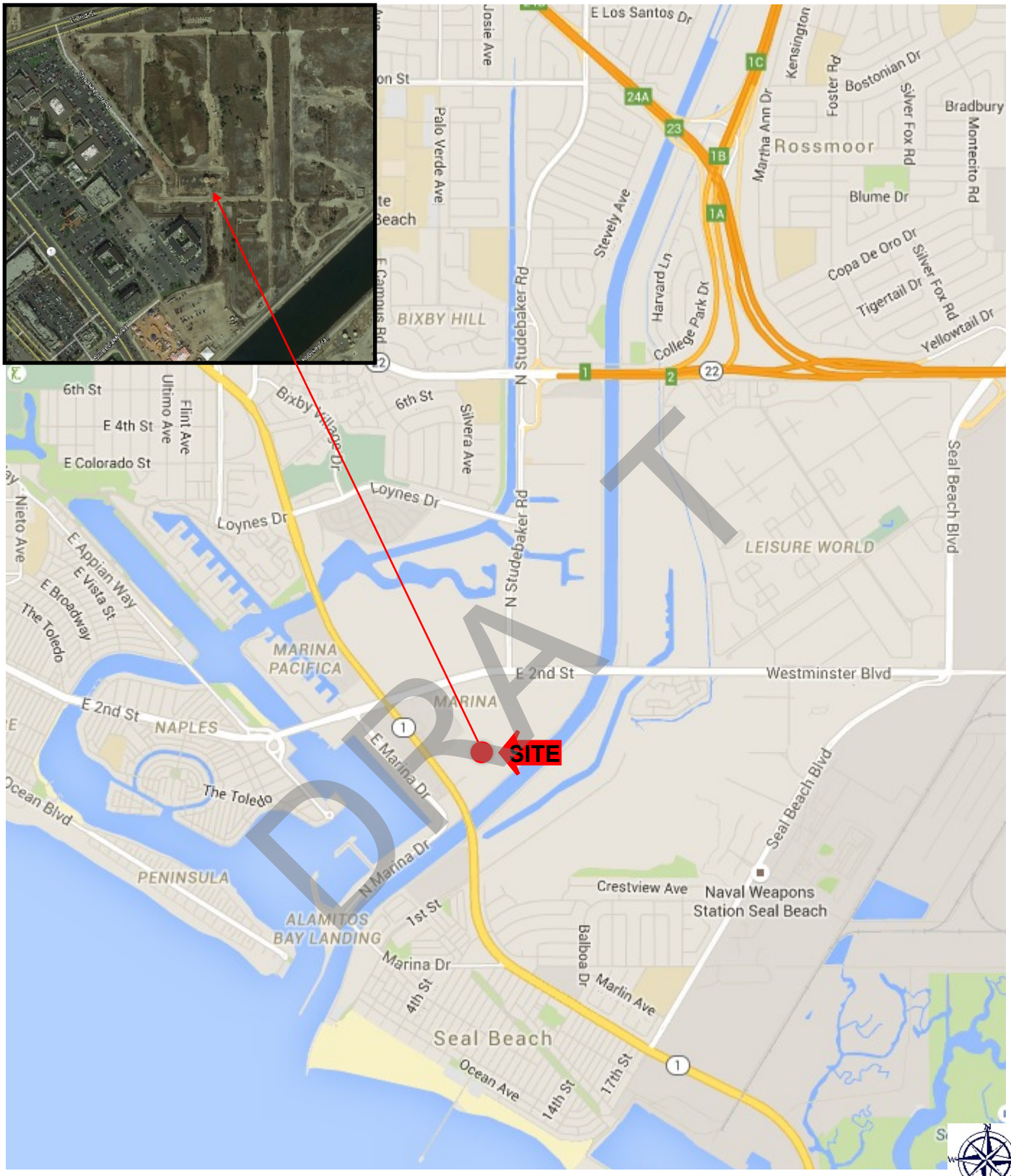
• ENVIRONMENTAL CONCEPTS WITH DESIGN IN MIND •

220 E. TRUXTUN AVENUE BAKERSFIELD, CA 93305 661/395-1646 FAX 661/395-1616

DRAFT

Appendix A

FIGURES



ADVANCED ENVIRONMENTAL CONCEPTS INC

220 East Truxtun Avenue
Bakersfield, California 93305
(661) 395-1646

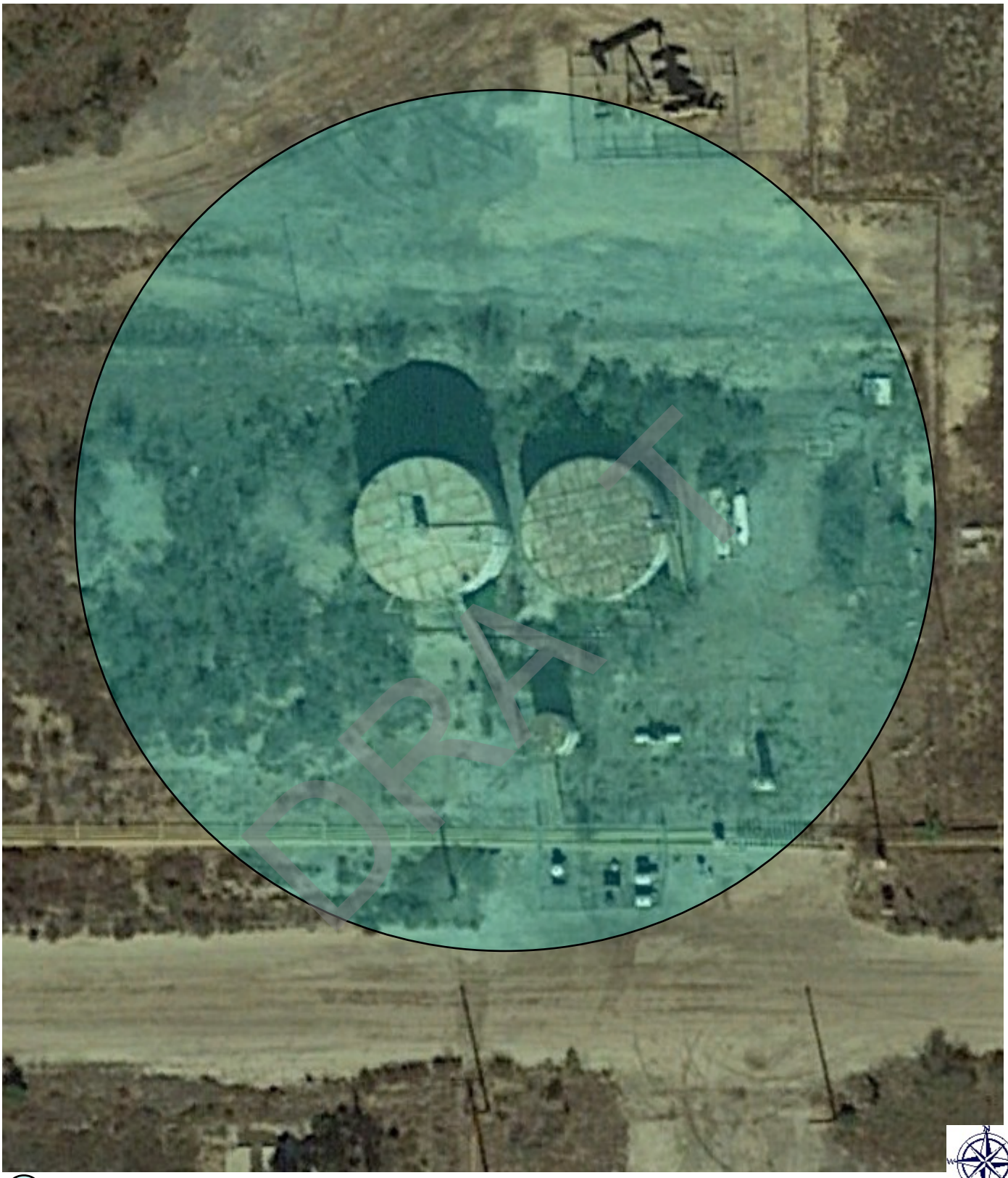
Site Location Map

Synergy (City) Oil Field Site
Westminster and Studebaker
County of Los Angeles ● Long Beach, California

FIGURE

1

Scale 1 = 33'



Proposed samples to e collected it in 100-ft radius

ADVANCED ENVIRONMENTAL CONCEPTS INC

220 East Truxtun Avenue
Bakersfield, California 93305
(661) 395-1646

Proposed Sample Locations

Synergy (City) Oil Field Site
Westminster and Studebaker
County of Los Angeles ● Long Beach, California

FIGURE

2

F8 Sampling Analytical Results

ADVANCED ENVIRONMENTAL CONCEPTS INC

June 8, 2017

Mr. Michael Di Sano
Beach Oil Mineral Partners
c/o: NCA Real Estate
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Re: Sampling Analytical Results
SB7 and SB8 Locations
Approximate 5-acre LCWA Site
Westminster and Studebaker
Long Beach, California

Dear Mr. Di Sano;

Advanced Environmental Concepts, Inc. (AEC) has prepared this summary letter for additional soil testing conducted proximal to CH2M Hill sampling locations SB7 and SB8 within the central portion of the approximate 5-acre LCWA Site, Westminster and Studebaker, Long Beach, California. The boring locations are sited on the attached Figure 2.

Background

AEC reviewed the Phase II Environmental Site Assessment Alamitos EPTC Parcel 3-4 prepared by CH2M Hill in December 2004. The results of the CH2M Hill report are submitted as follows:

"CH2M HILL, on behalf of Southern California Edison (SCE), conducted a Phase II Environmental Site Assessment (ESA) at the Edison Pipeline and Terminal Company (EPTC) Parcel 3-4 property (the Site). The Site is located south of the Alamitos Generating Station (AGS), at the northeastern corner of the intersection of North Studebaker Road and Westminster Avenue, Long Beach, California (Figure 1).

"SCE has offered to donate the Site, as is, to the California State Coastal Conservancy (CSCC). Prior to taking title to the property, CSCC has requested that SCE conduct a Phase II ESA to determine if there is onsite contamination that could pose a significant threat to human health and the environment, and potentially trigger regulatory action. CSCC retained California Department of Toxic Substances Control (DTSC) to provide technical support related to the Site.

"As part of the Phase II ESA, 13 direct-push soil borings were advanced at the Site. In addition, soil samples were collected from an apparent debris pit area. A total of 47 soil samples were collected for laboratory analysis. Soil samples were collected from multiple depths (0.5, 5, and 10 feet below ground surface [bgs]) and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals and chlorinated pesticides (including polychlorinated biphenyls [PCBs] at one location, in the reported drum storage area). For background metal analyses, soil samples from three nearby locations were also collected.

"To assess potential impacts from the Huntington Beach Oil Field, a nearby waste disposal site, and possible historical onsite activities, soil gas samples were collected at nine locations throughout the Site and analyzed for VOCs, hydrogen sulfide, and methane gas. In addition, four groundwater grab samples were collected at the four corners of the Site and analyzed for VOCs and SVOCs."

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220 E. TRUXTUN AVENUE BAKERSFIELD, CA 93305 661/395-1646 FAX 661/395-1616

Conclusions

Based on the results of the site investigation, CH2M Hill made the following conclusions:

- "Overall, VOC, SVOC, chlorinated pesticide, and PCB concentrations did not exceed industrial PRGs, total threshold limit concentrations (TTLC), and 10 times soluble threshold limit concentration (STLC), screening criteria in the majority of the soil and soil gas samples collected at the Site; and the soil appears to be minimally impacted.

- "Arsenic was the only analyte for which concentrations exceeded the industrial preliminary remediation goals (PRGs). However, it should be noted that, in California, background concentrations of several metals, particularly arsenic, often exceed industrial PRGs, as reported by the Kearney Foundation Special Report on Background Concentrations of Trace and Major Elements in California Soils (1996). One soil sample, collected at 5 feet bgs and at a location considered representative of background conditions, exhibited a lead concentration that exceeded 10 times the STLC.

- "Lead concentration in one sample and nickel and vanadium concentrations in another sample exceeded the TTLC screening criteria. However, concentrations of lead, nickel, and vanadium for the deeper samples at these two locations were below the TTLC screening criteria.

- "Soil gas concentrations for VOCs did not exceed the conservative shallow soil gas environmental screening levels (ESLs) for the commercial/industrial land use scenario published by the San Francisco Bay Area Regional Water Quality Control Board (RWQCB) (July 2003, Updated February 2004). Thus, the VOCs detected in soil gas samples would not pose a significant impact to indoor air at a future onsite building.

  "Hydrogen sulfide gas was not detected in the 10 soil gas samples (including one duplicate) collected at the Site.

  "Methane concentrations in soil gas samples were several orders of magnitude below the lower explosive limit (LEL) of 5 percent (50,000 parts per million [ppm]).

- "No VOCs or SVOCs were detected in groundwater samples collected at the Site."

<u>Hand Auger Investigation</u>

AEC initially used a scale to identify the approximate locations of the CH2MHill soil borings identified as SB7 and SB8 on their Figure 2-1 and from a known previously existing location (fence post at the northeast corner). Once onsite, AEC used a wheel to locate the former boring locations based on the scaled distances. AEC then sited "step-out" boring locations at distances of 2-feet east, 4-feet south, 6-feet west and 8-feet north of initial locations of borings SB7 and SB8. AEC's shallow depth investigation indicated that the underlying media consisted of soil intermixed with asphalt, concrete and brick debris indicating that the genesis of the pad may have been from import of construction debris and soil.

AEC used a combination of a pick and hand auger to collect the soil samples from the prescribed depths of 2' bgs proximal to SB7 and 1' bgs proximal to SB8. The soil samples were analyzed for the Metals Arsenic, Nickel and Vanadium by EPA Method 6010B from the SB7 step-outs and for the Metals Arsenic and Lead by EPA Method 6010B in the SB8 step-outs. Upon reaching the proposed sample depth, the soil was brought to surface and transferred to clean 4 oz glass jars obtained from the analytical laboratory prior to sample collection.

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Analytical Results

The analytical results for the four soil samples collected proximal to SB7 and four soil samples collected proximal to SB8 were compared to the May 2016 Industrial-use Regional Screening Levels (RSLs) and also to the Total Threshold Limit Concentration (TTLC) criteria which is instrumental in identifying whether a Metal is a California hazardous-classified waste for landfilling purposes. The Metals of concern (Arsenic, Vanadium, Lead, and Nickel) did not exceed their comparative standard with the exception of Arsenic.

Arsenic is a naturally occurring metal in California soils and is problematic in evaluating human health risk since the risk-based soil concentration can be 100 times below typical ambient concentrations. The Department of Toxic Substances Control (DTSC) established a regional background arsenic concentration in soil that can be used as screening criteria for sites in Southern California (Chernoff, Bosan, and Oudiz; DTSC, 2006). The term "background" refers collectively to both naturally occurring and anthropogenic concentrations in shallow soil. Data obtained for this study were derived from completed Preliminary Endangerment Assessments (PEAs) for proposed school sites during the 2000's. Data were obtained from studies conducted in Los Angeles, Orange, Riverside, San Bernardino and San Diego counties. Since Los Angeles County had the largest number of sites tested (19 school sites with 1,097 samples) this data served as the model for the statistical derivation of "background" arsenic. The statistical analysis resulted in an upper-bound arsenic concentration of approximately 12 mg/kg; the derivation for the other counties having a smaller dataset also indicated an upper-bound background of 12 mg/kg. Therefore, although the onsite arsenic results exceeded their comparative RSL of 0.39 mg/kg, all samples analyzed for arsenic (ranging between 4.9 mg//kg to 12 mg/kg) were within the acceptable background range in California soils of 1 to 12 mg/kg; therefore, would not be subject to regulatory action.

Recommendations

Based on the absence of regulatory "actionable" concentrations of Arsenic, Lead, Nickel and Vanadium collected from 'step-out" samples proximal to prior boring locations SB7 and SB8, AEC recommends that the prior elevated results from the CH2MHill investigation of December 2004 are an anomaly and require no further investigation and/or remediation. In addition, CH2MHill collected soil samples at bracketed depths around the samples exhibiting these anomalous results and the levels were within what can be considered normal "background" range.

Closing

AEC appreciates the opportunity to provide this summary letter for your review. Should you have any questions, or require clarification please do not hesitate to contact the undersigned at your convenience.

Sincerely,

Jonathan L. Buck
California Register Geologist #7468

REGISTERED GEOLOGIST
JONATHAN L. BUCK
RENEWAL DATE
2/28/19
No. 7468
STATE OF CALIFORNIA

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220 E. TRUXTUN AVENUE BAKERSFIELD, CA 93305 661/395-1646 FAX 661/395-1616

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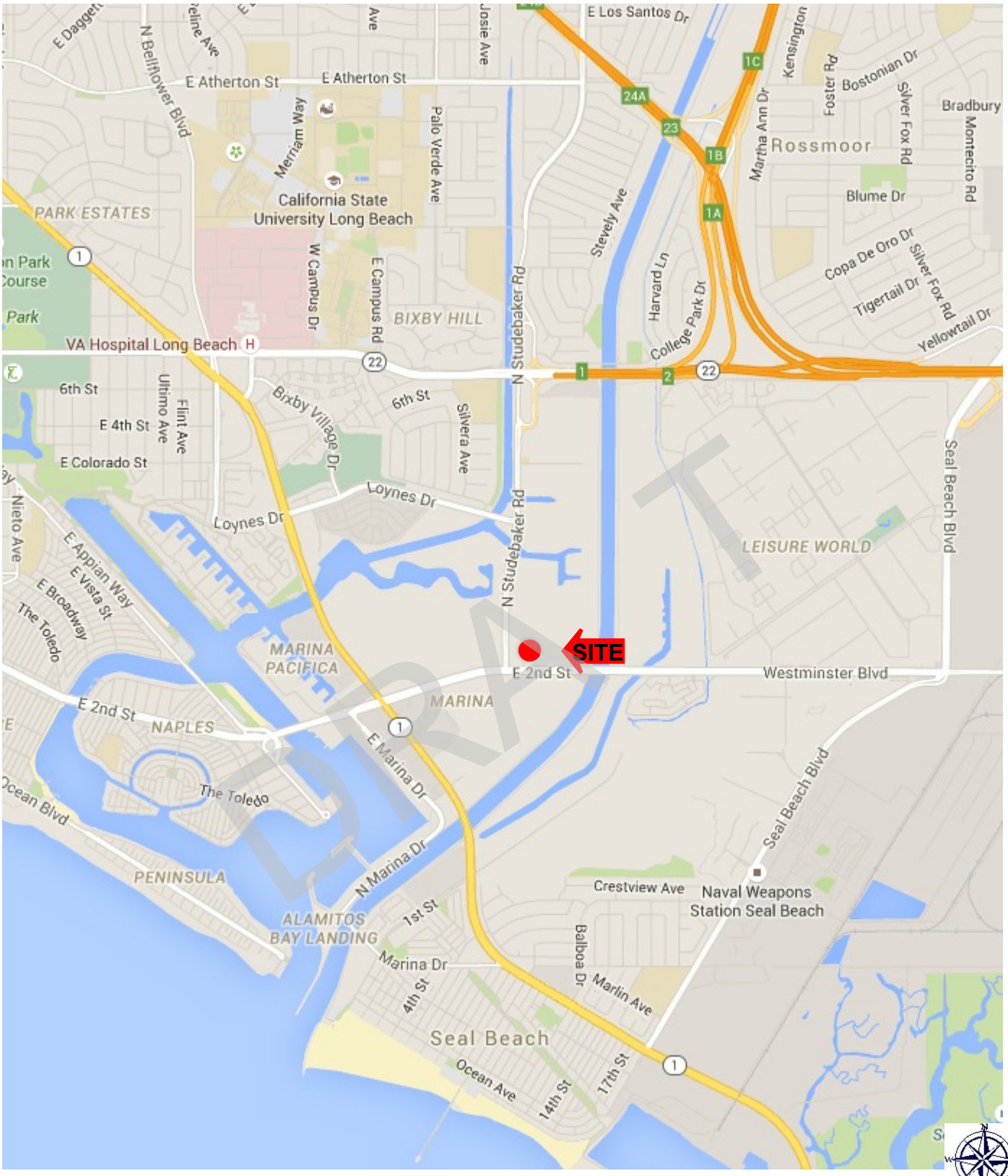
Appendix A

FIGURES



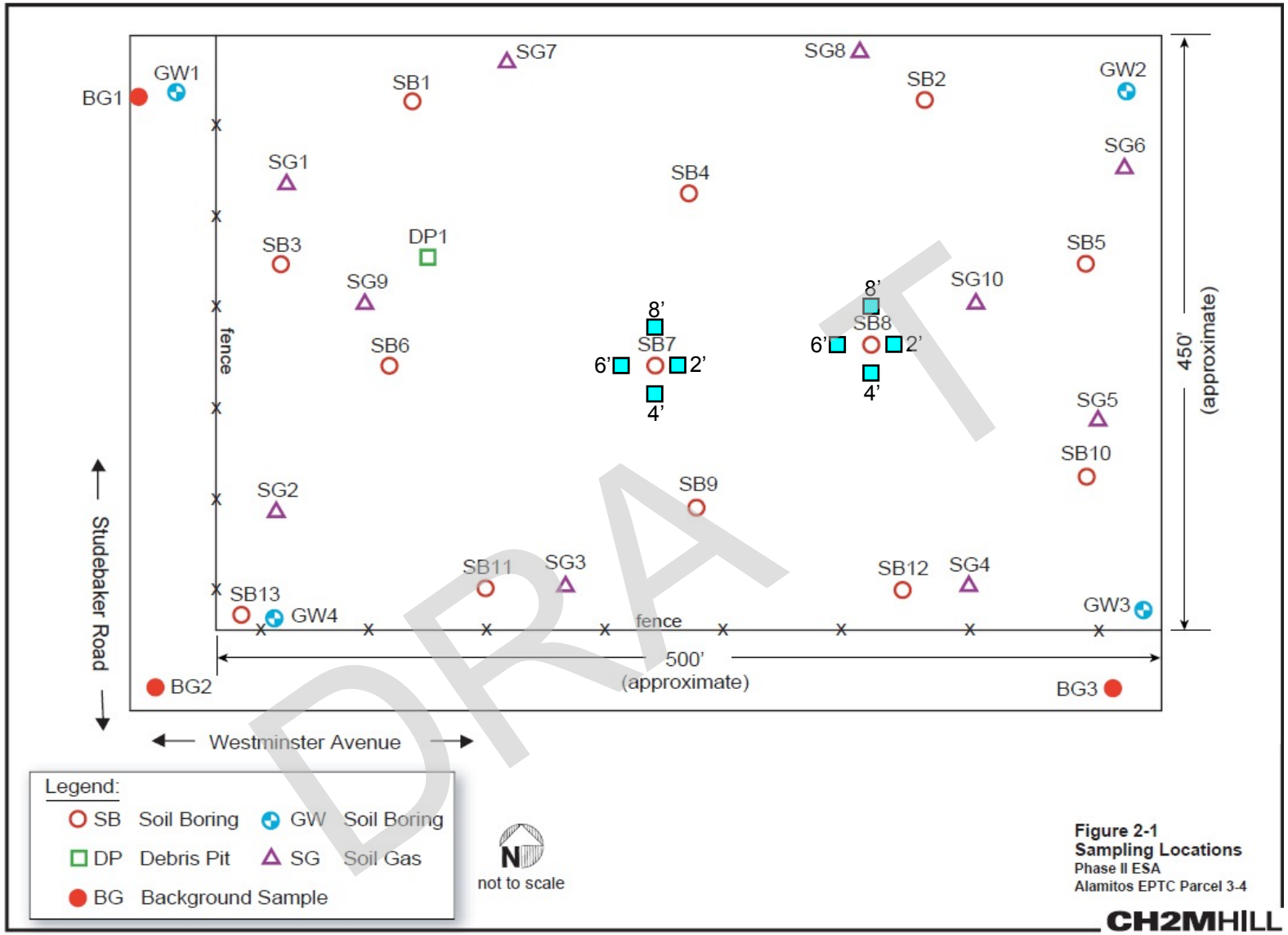
ADVANCED ENVIRONMENTAL CONCEPTS INC
220 East Truxtun Avenue
Bakersfield, California 93305
(661) 395-1646

Site Location Map

Approximate 5-acre LCWA Site
Westminster and Studebaker
County of Los Angeles ● Long Beach, California

FIGURE

1



= Sampling locations

ADVANCED ENVIRONMENTAL CONCEPTS INC
220 East Truxtun Avenue
Bakersfield, California 93305
(661) 395-1646

Sampling Locations

Approximate 5-acre LCWA Site
Westminster and Studebaker
County of Los Angeles ● Long Beach, California

FIGURE

2

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Appendix B

TABULATED ANALYTICAL RESULTS

Table 1
Approximate 5-acre LCWA Site
Soil Sample Results
March 15, 2004 and May 31, 2017

Parameter:	Sample ID: / Sample Type: / Sample Date:	May 2016 RSLs Industrial	TTLC	EPTC 3-4 SB 07-02 3/15/2004	SB7-E-2' 5/31/2017	SB7-S-2' 5/31/2017	SB7-W-2' 5/31/2017	SB7-N-2' 5/31/2017	EPTC 3-4 SB 08-01 3/15/2004	SB8-E-1' 5/31/2017	SB8-S-1' 5/31/2017	SB8-W-1' 5/31/2017	SB8-N-1' 5/31/2017
Method 6010B													
Lead	mg/Kg	800	1,000	30.6	NA	NA	NA	NA	3,420	37	47	24	7.2
Arsenic	mg/Kg	3	500	10.98	6.7	9.2	9.5	6.9	17.3	5.3	12	4.9	11
Silver	mg/Kg	5,800	500	0.25 U	NA	NA	NA	NA	0.103 J	NA	NA	NA	NA
Barium	mg/Kg	220,000	10,000	234	NA	NA	NA	NA	637	NA	NA	NA	NA
Beryllium	mg/Kg	2,300	75	2	NA	NA	NA	NA	0.413	NA	NA	NA	NA
Cadmium	mg/Kg	N/A	100	12.3	NA	NA	NA	NA	1.18	NA	NA	NA	NA
Cobalt	mg/Kg	350	8,000	61.1	NA	NA	NA	NA	8.65	NA	NA	NA	NA
Chromium	mg/Kg	N/A	2,500	23.3	NA	NA	NA	NA	23.1	NA	NA	NA	NA
Copper	mg/Kg	47,000	2,500	16.3	NA	NA	NA	NA	35.7	NA	NA	NA	NA
Molybdenum	mg/Kg	5,800	3,500	3.62	NA	NA	NA	NA	0.443	NA	NA	NA	NA
Nickel	mg/Kg	N/A	2,000	2,370	18	24	26	78	18.2	NA	NA	NA	NA
Selenium	mg/Kg	5,800	100	31.9	NA	NA	NA	NA	0.75 U	NA	NA	NA	NA
Antimony	mg/Kg	470	500	7.09	NA	NA	NA	NA	0.75 UJ	NA	NA	NA	NA
Thallium	mg/Kg	N/A	700	22.2	NA	NA	NA	NA	0.75 UJ	NA	NA	NA	NA
Vanadium	mg/Kg	5,800	2,400	1,430	39	51	51	210	37.2	NA	NA	NA	NA
Zinc	mg/Kg	350,000	5,000	52.8	NA	NA	NA	NA	359	NA	NA	NA	NA
Method 7471A													
Mercury	mg/Kg	46	20	0.0178 J	NA	NA	NA	NA	0.134	NA	NA	NA	NA

ND: Not detected above Method Detection Limit (MDL)

N/A: Not applicable

NA: Not Analyzed

Default order for comparative screening values based on availability of a screening standard:

1) EPA Region 9 Regional Screening Level (RSL) - May 2016

2) San Francisco Bay RWQCB Environmental Screening Level (ESL) Feb 2016 - Rev. 3

Exceeds May 2016 EPA Region 9 Regional Screening Level - Industrial Soil

Exceeds STLC

Exceeds more than one Comparative Standard

Note: TPH result divided by two (assuming 50% Aliphatic and 50% Aromatic) to determine if screening criteria is exceeded.

[1]Total Petroleum Hydrocarbons Low (2,200 mg/kg Aliphatic/420 mg/kg Aromatic)

[2]Total Petroleum Hydrocarbons Medium (440 mg/kg Aliphatic/600 mg/kg Aromatic)

[3]Total Petroleum Hydrocarbons High (3,500,000 mg/kg Aliphatic/33,000 mg/kg Aromatic)

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Appendix C

LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-185393-1
Client Project/Site: LCWA

For:
Advanced Environmental Concepts Inc
220 E. Truxtun Ave.
Bakersfield, California 93305

Attn: Jonathan Buck

Authorized for release by:
6/6/2017 3:21:51 PM

Danielle Roberts, Senior Project Manager
(949)261-1022
danielle.roberts@testamericainc.com

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LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Certification Summary 14
Chain of Custody 15
Receipt Checklists 17

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Sample Summary

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-185393-1	SB7-E-2'	Solid	05/31/17 07:00	05/31/17 10:12
440-185393-2	SB7-S-2'	Solid	05/31/17 07:15	05/31/17 10:12
440-185393-3	SB7-W-2'	Solid	05/31/17 07:25	05/31/17 10:12
440-185393-4	SB7-N-2'	Solid	05/31/17 07:35	05/31/17 10:12
440-185393-5	SB8-E-1'	Solid	05/31/17 08:15	05/31/17 10:12
440-185393-6	SB8-S-1'	Solid	05/31/17 08:27	05/31/17 10:12
440-185393-7	SB8-W-1'	Solid	05/31/17 08:40	05/31/17 10:12
440-185393-8	SB8-N-1'	Solid	05/31/17 08:55	05/31/17 10:12

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Job ID: 440-185393-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-185393-1

Comments
No additional comments.

Receipt
The samples were received on 5/31/2017 10:12 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Detection Summary

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Client Sample ID: SB7-E-2' — Lab Sample ID: 440-185393-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.7		2.1	1.3	mg/Kg	1		6010B	Total/NA
Nickel	18		1.0	0.25	mg/Kg	1		6010B	Total/NA
Vanadium	39		0.52	0.20	mg/Kg	1		6010B	Total/NA

Client Sample ID: SB7-S-2' — Lab Sample ID: 440-185393-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.2		1.9	1.3	mg/Kg	1		6010B	Total/NA
Nickel	24		0.97	0.23	mg/Kg	1		6010B	Total/NA
Vanadium	51		0.49	0.18	mg/Kg	1		6010B	Total/NA

Client Sample ID: SB7-W-2' — Lab Sample ID: 440-185393-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.5		2.0	1.3	mg/Kg	1		6010B	Total/NA
Nickel	26		0.99	0.24	mg/Kg	1		6010B	Total/NA
Vanadium	51		0.50	0.19	mg/Kg	1		6010B	Total/NA

Client Sample ID: SB7-N-2' — Lab Sample ID: 440-185393-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.9		2.0	1.3	mg/Kg	1		6010B	Total/NA
Nickel	78		1.0	0.24	mg/Kg	1		6010B	Total/NA
Vanadium	210		0.51	0.19	mg/Kg	1		6010B	Total/NA

Client Sample ID: SB8-E-1' — Lab Sample ID: 440-185393-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.3		1.9	1.3	mg/Kg	1		6010B	Total/NA
Lead	37		0.97	0.25	mg/Kg	1		6010B	Total/NA

Client Sample ID: SB8-S-1' — Lab Sample ID: 440-185393-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12		1.9	1.3	mg/Kg	1		6010B	Total/NA
Lead	47		0.96	0.25	mg/Kg	1		6010B	Total/NA

Client Sample ID: SB8-W-1' — Lab Sample ID: 440-185393-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.9		2.0	1.3	mg/Kg	1		6010B	Total/NA
Lead	24		0.99	0.26	mg/Kg	1		6010B	Total/NA

Client Sample ID: SB8-N-1' — Lab Sample ID: 440-185393-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.2		1.9	1.2	mg/Kg	1		6010B	Total/NA
Lead	11		0.95	0.25	mg/Kg	1		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Client Sample ID: SB7-E-2'
Lab Sample ID: 440-185393-1
Date Collected: 05/31/17 07:00
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.7		2.1	1.3	mg/Kg		06/02/17 07:00	06/02/17 19:08	1
Nickel	18		1.0	0.25	mg/Kg		06/02/17 07:00	06/02/17 19:08	1
Vanadium	39		0.52	0.20	mg/Kg		06/02/17 07:00	06/02/17 19:08	1

Client Sample ID: SB7-S-2'
Lab Sample ID: 440-185393-2
Date Collected: 05/31/17 07:15
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.2		1.9	1.3	mg/Kg		06/02/17 07:00	06/02/17 19:11	1
Nickel	24		0.97	0.23	mg/Kg		06/02/17 07:00	06/02/17 19:11	1
Vanadium	51		0.49	0.18	mg/Kg		06/02/17 07:00	06/02/17 19:11	1

Client Sample ID: SB7-W-2'
Lab Sample ID: 440-185393-3
Date Collected: 05/31/17 07:25
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.5		2.0	1.3	mg/Kg		06/02/17 07:00	06/02/17 19:14	1
Nickel	26		0.99	0.24	mg/Kg		06/02/17 07:00	06/02/17 19:14	1
Vanadium	51		0.50	0.19	mg/Kg		06/02/17 07:00	06/02/17 19:14	1

Client Sample ID: SB7-N-2'
Lab Sample ID: 440-185393-4
Date Collected: 05/31/17 07:35
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.9		2.0	1.3	mg/Kg		06/02/17 07:00	06/02/17 19:16	1
Nickel	78		1.0	0.24	mg/Kg		06/02/17 07:00	06/02/17 19:16	1
Vanadium	210		0.51	0.19	mg/Kg		06/02/17 07:00	06/02/17 19:16	1

Client Sample ID: SB8-E-1'
Lab Sample ID: 440-185393-5
Date Collected: 05/31/17 08:15
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.3		1.9	1.3	mg/Kg		06/02/17 07:00	06/02/17 19:19	1
Lead	37		0.97	0.25	mg/Kg		06/02/17 07:00	06/02/17 19:19	1

Client Sample ID: SB8-S-1'
Lab Sample ID: 440-185393-6
Date Collected: 05/31/17 08:27
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		1.9	1.3	mg/Kg		06/02/17 07:00	06/02/17 19:22	1

DRAFT

Client Sample Results

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Client Sample ID: SB8-S-1'

Lab Sample ID: 440-185393-6
Date Collected: 05/31/17 08:27
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	47		0.96	0.25	mg/Kg		06/02/17 07:00	06/02/17 19:22	1

Client Sample ID: SB8-W-1'

Lab Sample ID: 440-185393-7
Date Collected: 05/31/17 08:40
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.9		2.0	1.3	mg/Kg		06/02/17 07:00	06/02/17 19:25	1
Lead	24		0.99	0.26	mg/Kg		06/02/17 07:00	06/02/17 19:25	1

Client Sample ID: SB8-N-1'

Lab Sample ID: 440-185393-8
Date Collected: 05/31/17 08:55
Matrix: Solid
Date Received: 05/31/17 10:12

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.2		1.9	1.2	mg/Kg		06/02/17 07:00	06/02/17 19:27	1
Lead	11		0.95	0.25	mg/Kg		06/02/17 07:00	06/02/17 19:27	1

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Method Summary

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL SAC

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Lab Chronicle

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Client Sample ID: SB7-E-2'
Date Collected: 05/31/17 07:00
Date Received: 05/31/17 10:12

Lab Sample ID: 440-185393-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			0.97 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:08	BNB	TAL SAC

Client Sample ID: SB7-S-2'
Date Collected: 05/31/17 07:15
Date Received: 05/31/17 10:12

Lab Sample ID: 440-185393-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:11	BNB	TAL SAC

Client Sample ID: SB7-W-2'
Date Collected: 05/31/17 07:25
Date Received: 05/31/17 10:12

Lab Sample ID: 440-185393-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.01 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:14	BNB	TAL SAC

Client Sample ID: SB7-N-2'
Date Collected: 05/31/17 07:35
Date Received: 05/31/17 10:12

Lab Sample ID: 440-185393-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			0.99 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:16	BNB	TAL SAC

Client Sample ID: SB8-E-1'
Date Collected: 05/31/17 08:15
Date Received: 05/31/17 10:12

Lab Sample ID: 440-185393-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:19	BNB	TAL SAC

Client Sample ID: SB8-S-1'
Date Collected: 05/31/17 08:27
Date Received: 05/31/17 10:12

Lab Sample ID: 440-185393-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.04 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:22	BNB	TAL SAC

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Lab Chronicle

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Client Sample ID: SB8-W-1'

Lab Sample ID: 440-185393-7
Date Collected: 05/31/17 08:40
Matrix: Solid
Date Received: 05/31/17 10:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.01 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:25	BNB	TAL SAC

Client Sample ID: SB8-N-1'

Lab Sample ID: 440-185393-8
Date Collected: 05/31/17 08:55
Matrix: Solid
Date Received: 05/31/17 10:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.05 g	100 mL	167146	06/02/17 07:00	NIM	TAL SAC
Total/NA	Analysis	6010B		1			167434	06/02/17 19:27	BNB	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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QC Sample Results

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 320-167146/1-A
Matrix: Solid
Analysis Batch: 167434

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 167146

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0	1.3	mg/Kg		06/02/17 07:00	06/02/17 14:54	1
Nickel	ND		1.0	0.24	mg/Kg		06/02/17 07:00	06/02/17 14:54	1
Vanadium	ND		0.50	0.19	mg/Kg		06/02/17 07:00	06/02/17 14:54	1

Lab Sample ID: LCS 320-167146/2-A
Matrix: Solid
Analysis Batch: 167434

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 167146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	201		mg/Kg		101	80 - 120
Nickel	50.0	50.0		mg/Kg		100	80 - 120
Vanadium	50.0	49.4		mg/Kg		99	80 - 120

Lab Sample ID: 440-185410-B-1-B MS
Matrix: Solid
Analysis Batch: 167434

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 167146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.3		196	180		mg/Kg		90	80 - 120
Nickel	13		49.0	55.2		mg/Kg		86	80 - 120
Vanadium	23		49.0	67.6		mg/Kg		92	80 - 120

Lab Sample ID: 440-185410-B-1-C MSD
Matrix: Solid
Analysis Batch: 167434

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 167146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.3		190	172		mg/Kg		88	80 - 120	5	35
Nickel	13		47.6	52.7		mg/Kg		84	80 - 120	5	35
Vanadium	23		47.6	64.2		mg/Kg		87	80 - 120	5	35

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QC Association Summary

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Metals

Prep Batch: 167146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-185393-1	SB7-E-2'	Total/NA	Solid	3050B	
440-185393-2	SB7-S-2'	Total/NA	Solid	3050B	
440-185393-3	SB7-W-2'	Total/NA	Solid	3050B	
440-185393-4	SB7-N-2'	Total/NA	Solid	3050B	
440-185393-5	SB8-E-1'	Total/NA	Solid	3050B	
440-185393-6	SB8-S-1'	Total/NA	Solid	3050B	
440-185393-7	SB8-W-1'	Total/NA	Solid	3050B	
440-185393-8	SB8-N-1'	Total/NA	Solid	3050B	
MB 320-167146/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 320-167146/2-A	Lab Control Sample	Total/NA	Solid	3050B	
440-185410-B-1-B MS	Matrix Spike	Total/NA	Solid	3050B	
440-185410-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Analysis Batch: 167434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-185393-1	SB7-E-2'	Total/NA	Solid	6010B	167146
440-185393-2	SB7-S-2'	Total/NA	Solid	6010B	167146
440-185393-3	SB7-W-2'	Total/NA	Solid	6010B	167146
440-185393-4	SB7-N-2'	Total/NA	Solid	6010B	167146
440-185393-5	SB8-E-1'	Total/NA	Solid	6010B	167146
440-185393-6	SB8-S-1'	Total/NA	Solid	6010B	167146
440-185393-7	SB8-W-1'	Total/NA	Solid	6010B	167146
440-185393-8	SB8-N-1'	Total/NA	Solid	6010B	167146
MB 320-167146/1-A	Method Blank	Total/NA	Solid	6010B	167146
LCS 320-167146/2-A	Lab Control Sample	Total/NA	Solid	6010B	167146
440-185410-B-1-B MS	Matrix Spike	Total/NA	Solid	6010B	167146
440-185410-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	167146

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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Accreditation/Certification Summary

Client: Advanced Environmental Concepts Inc
Project/Site: LCWA

TestAmerica Job ID: 440-185393-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-17 *
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18
Hawaii	State Program	9	N/A	01-29-18
Kansas	NELAP Secondary AB	7	E-10420	07-31-17
Nevada	State Program	9	CA015312017-1	07-31-17
New Mexico	State Program	6	N/A	01-29-17 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-18
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

Laboratory: TestAmerica Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-055	12-18-17
Arizona	State Program	9	AZ0708	08-11-17
Arkansas DEQ	State Program	6	88-0691	06-17-18
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-17
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-17
Hawaii	State Program	9	N/A	01-29-18
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	10-31-17
L-A-B	DoD ELAP		L2468	01-20-18
Louisiana	NELAP	6	30612	06-30-17
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-17
New Hampshire	NELAP	1	2997	04-18-18
New Jersey	NELAP	2	CA005	06-30-17
New York	NELAP	2	11666	04-01-18
Oregon	NELAP	10	4040	01-28-18
Pennsylvania	NELAP	3	68-01272	03-31-18
Texas	NELAP	6	T104704399	05-31-18
US Fish & Wildlife	Federal		LE148388-0	10-31-17
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-18
West Virginia (DW)	State Program	3	9930C	12-31-17
Wyoming	State Program	8	8TMS-L	01-29-17 *

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* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
Phone: 949.261.1022 Fax:

Chain of Custody Record

145826

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: J Bulk	Site Contact: J Bulk	Date: 5/31/17	COC No:
Company Name: AEC	Tel/Fax: 661 395 1696	Lab Contact: J Roberts	Carrier:	1 of 1 COCs
Address: 720 E Truxtun Ave	Analysis Turnaround Time			Sampler: J Bulk
City/State/Zip: Bakersfield, CA	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone:	TAT if different from Below _____			Walk-in Client:
Fax: 661 979 1628	☐ 2 weeks			Lab Sampling:
Project Name: LCWA	☒ 1 week			
Site: Westminster/Stanton	☐ 2 days			Job / SDG No.:
PO#	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Arsenic	Lead	Nickel	Vanadium	Sample Specific Notes:
SB7-E-2'	5/31/17	0700	G	Soil				✓		✓	✓	
SB7-S-2'		0715	G	Soil				✓		✓	✓	
SB7-W-2'		0725	G	Soil				✓		✓	✓	
SB7-N-2'		0735	G	Soil				✓		✓	✓	
SB8-E-1'		0815	G	Soil				✓	✓			
SB8-S-1'		0827	G	Soil				✓	✓			
SB8-W-1'		0840	G	Soil				✓	✓			
SB8-N-1'	5/31/17	0855	G	Soil				✓	✓			

440-185393 Chain of Custody

WS 5/31/17

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 4.0 Corr'd: 4.3 | Therm ID No.: 85

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	AEC	5/31/17 1012			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: TA-I	Date/Time: 5/31/17 10:12

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TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 440-111265.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: danielle.roberts@testamericainc.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 440-185393-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 6/6/2017			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Misc	Project #: 44014640			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B/3050B (MOD) 6010 Ar	6010B/3050B (MOD) 6010-Total Ar & Pb	6010B/3050B 6010-Total Ar & Pb	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
SB7-E-2' (440-185393-1)	5/31/17	07:00 Pacific		Solid			X	X		1	
SB7-S-2' (440-185393-2)	5/31/17	07:15 Pacific		Solid			X	X		1	
SB7-W-2' (440-185393-3)	5/31/17	07:25 Pacific		Solid			X	X		1	
SB7-N-2' (440-185393-4)	5/31/17	07:35 Pacific		Solid			X	X		1	
SB8-E-1' (440-185393-5)	5/31/17	08:15 Pacific		Solid			X		X	1	
SB8-S-1' (440-185393-6)	5/31/17	08:27 Pacific		Solid			X		X	1	
SB8-W-1' (440-185393-7)	5/31/17	08:40 Pacific		Solid			X		X	1	
SB8-N-1' (440-185393-8)	5/31/17	08:55 Pacific		Solid			X		X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Vu Bank	Date/Time: 5/31/17 17:00	Company: TAI	Received by: [illegible]	Date/Time: 6-1-17 950	Company: TAI
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.0

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Login Sample Receipt Checklist

Client: Advanced Environmental Concepts Inc

Job Number: 440-185393-1

Login Number: 185393
List Number: 1
Creator: Skinner, Alma D

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Login Sample Receipt Checklist

Client: Advanced Environmental Concepts Inc

Job Number: 440-185393-1

Login Number: 185393
List Number: 2
Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento
List Creation: 06/01/17 12:57 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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