

Corona Clay – Initial Drainage Study

ATTACHMENT A-2

Pervious area fraction = 1.000

+++++
Process from Point/Station 310.000 to Point/Station 311.000
**** SUBAREA FLOW ADDITION ****

UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.845
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Time of concentration = 18.72 min.
Rainfall intensity = 2.536(In/Hr) for a 100.0 year storm
Subarea runoff = 4.200(CFS) for 1.960(Ac.)
Total runoff = 11.624(CFS) Total area = 5.640(Ac.)

+++++
Process from Point/Station 311.000 to Point/Station 304.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****

Top of street segment elevation = 1007.000(Ft.)
End of street segment elevation = 977.000(Ft.)
Length of street segment = 743.000(Ft.)
Height of curb above gutter flowline = 6.0(In.)
Width of half street (curb to crown) = 30.000(Ft.)
Distance from crown to crossfall grade break = 28.000(Ft.)
Slope from gutter to grade break (v/hz) = 0.020
Slope from grade break to crown (v/hz) = 0.020
Street flow is on [2] side(s) of the street
Distance from curb to property line = 2.000(Ft.)
Slope from curb to property line (v/hz) = 0.025
Gutter width = 2.000(Ft.)
Gutter hike from flowline = 2.000(In.)
Manning's N in gutter = 0.0150
Manning's N from gutter to grade break = 0.0150
Manning's N from grade break to crown = 0.0150
Estimated mean flow rate at midpoint of street = 20.069(CFS)
Depth of flow = 0.392(Ft.), Average velocity = 5.317(Ft/s)
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width = 13.268(Ft.)
Flow velocity = 5.32(Ft/s)
Travel time = 2.33 min. TC = 21.05 min.
Adding area flow to street

UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.842
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 2.397(In/Hr) for a 100.0 year storm
Subarea runoff = 16.715(CFS) for 8.280(Ac.)
Total runoff = 28.338(CFS) Total area = 13.920(Ac.)
Street flow at end of street = 28.338(CFS)
Half street flow at end of street = 14.169(CFS)
Depth of flow = 0.432(Ft.), Average velocity = 5.776(Ft/s)
Flow width (from curb towards crown)= 15.252(Ft.)

+++++
Process from Point/Station 311.000 to Point/Station 304.000
**** CONFLUENCE OF MINOR STREAMS ****

Along Main Stream number: 1 in normal stream number 2

Corona Clay – Initial Drainage Study

ATTACHMENT A-2

Stream flow area = 13.920 (Ac.)
 Runoff from this stream = 28.338 (CFS)
 Time of concentration = 21.05 min.
 Rainfall intensity = 2.397 (In/Hr)
 Summary of stream data:

Stream No.	Flow rate (CFS)	TC (min)	Rainfall Intensity (In/Hr)
------------	-----------------	----------	----------------------------

1	86.844	22.06	2.344
2	28.338	21.05	2.397

Largest stream flow has longer time of concentration

Qp = 86.844 + sum of
 Qb Ia/Ib
 28.338 * 0.978 = 27.707
 Qp = 114.551

Total of 2 streams to confluence:
 Flow rates before confluence point:
 86.844 28.338

Area of streams before confluence:
 42.810 13.920

Results of confluence:
 Total flow rate = 114.551 (CFS)
 Time of concentration = 22.064 min.
 Effective stream area after confluence = 56.730 (Ac.)

 Process from Point/Station 304.000 to Point/Station 305.000
 **** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****

Top of street segment elevation = 977.000 (Ft.)
 End of street segment elevation = 965.000 (Ft.)
 Length of street segment = 432.000 (Ft.)
 Height of curb above gutter flowline = 6.0 (In.)
 Width of half street (curb to crown) = 30.000 (Ft.)
 Distance from crown to crossfall grade break = 28.000 (Ft.)
 Slope from gutter to grade break (v/hz) = 0.020
 Slope from grade break to crown (v/hz) = 0.020
 Street flow is on [2] side(s) of the street
 Distance from curb to property line = 2.000 (Ft.)
 Slope from curb to property line (v/hz) = 0.025
 Gutter width = 2.000 (Ft.)
 Gutter hike from flowline = 2.000 (In.)
 Manning's N in gutter = 0.0150
 Manning's N from gutter to grade break = 0.0150
 Manning's N from grade break to crown = 0.0150
 Estimated mean flow rate at midpoint of street = 119.891 (CFS)
 Depth of flow = 0.695 (Ft.), Average velocity = 7.006 (Ft/s)
 Warning: depth of flow exceeds top of curb
 Distance that curb overflow reaches into property = 7.82 (Ft.)
 Streetflow hydraulics at midpoint of street travel:
 Halfstreet flow width = 28.440 (Ft.)
 Flow velocity = 7.01 (Ft/s)
 Travel time = 1.03 min. TC = 23.09 min.
 Adding area flow to street
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.840
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 0.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 1.000
 RI index for soil (AMC 2) = 89.00
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Rainfall intensity = 2.293 (In/Hr) for a 100.0 year storm
 Subarea runoff = 10.551 (CFS) for 5.480 (Ac.)
 Total runoff = 125.102 (CFS) Total area = 62.210 (Ac.)
 Street flow at end of street = 125.102 (CFS)

Corona Clay – Initial Drainage Study

ATTACHMENT A-2

Half street flow at end of street = 62.551(CFS)
Depth of flow = 0.704(Ft.), Average velocity = 7.086(Ft/s)
Warning: depth of flow exceeds top of curb
Distance that curb overflow reaches into property = 8.17(Ft.)
Flow width (from curb towards crown) = 28.882(Ft.)

Process from Point/Station 400.000 to Point/Station 401.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 507.000(Ft.)
Top (of initial area) elevation = 1035.000(Ft.)
Bottom (of initial area) elevation = 983.500(Ft.)
Difference in elevation = 51.500(Ft.)
Slope = 0.10158 s(percent) = 10.16
TC = $k(0.530) * [(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 10.114 min.
Rainfall intensity = 3.408(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.858
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Initial subarea runoff = 3.014(CFS)
Total initial stream area = 1.030(Ac.)
Pervious area fraction = 1.000

Process from Point/Station 401.000 to Point/Station 402.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 983.500(Ft.)
Downstream point/station elevation = 982.000(Ft.)
Pipe length = 100.00(Ft.) Manning's N = 0.015
No. of pipes = 1 Required pipe flow = 3.014(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 3.014(CFS)
Normal flow depth in pipe = 8.10(In.)
Flow top width inside pipe = 11.24(In.)
Critical Depth = 8.93(In.)
Pipe flow velocity = 5.35(Ft/s)
Travel time through pipe = 0.31 min.
Time of concentration (TC) = 10.43 min.

Process from Point/Station 982.000 to Point/Station 975.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****

Top of natural channel elevation = 982.000(Ft.)
End of natural channel elevation = 975.000(Ft.)
Length of natural channel = 65.000(Ft.)
Estimated mean flow rate at midpoint of channel = 3.467(CFS)

Natural valley channel type used
L.A. County flood control district formula for channel velocity:
Velocity(ft/s) = $(7 + 8(q(\text{English Units})^{.352})(\text{slope}^{0.5}))$
Velocity using mean channel flow = 6.36(Ft/s)

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
Normal channel slope = 0.1077
Corrected/adjusted channel slope = 0.1077
Travel time = 0.17 min. TC = 10.60 min.

Corona Clay – Initial Drainage Study
ATTACHMENT A-2

Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.858
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 1.000
RI index for soil(AMC 2) = 89.00
Pervious area fraction = 1.000; Impervious fraction = 0.000
Rainfall intensity = 3.333(In/Hr) for a 100.0 year storm
Subarea runoff = 0.886(CFS) for 0.310(Ac.)
Total runoff = 3.900(CFS) Total area = 1.340(Ac.)
End of computations, total study area = 76.50 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(A_p) = 1.000
Area averaged RI index number = 85.3

ATTACHMENT B:

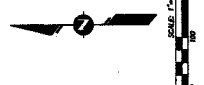
HYDROLOGY MAP – EXISTING CONDITION



HYDROLOGY LEGEND

- Drainage Area Boundary
- Drainage Sub Area Boundary
- General Surface Flow Direction
- Flow Length
- Drainage Sub Area Designation
- Sub Area Average
- Sub Area Flow
- Sub Area Slope
- 100% Contour
- Hydrology Node Number
- Commission Plan

L=130'



PREPARED ON: 03/02/2013

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PREPARED BY: _____ DATE: _____

CORONA CLAY
CURRENT CONDITION HYDROLOGY

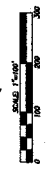
SHEET 1 OF 2

ATTACHMENT C:

CONCEPTUAL DRAINAGE ALTERNATIVE

HYDROLOGY LEGEND

- Drainage Area Boundary
- Drainage Sub Area Boundary
- General Surface Flow Direction
- Flow Length
- Drainage Sub Area Designation
- Sub Area Storage
- Sub Area Flow
- Sub Area Elevation
- Sub Area Slope
- Sub Area Perimeter
- Sub Area Area
- Sub Area Volume
- Sub Area Weight
- Sub Area Moment
- Sub Area Centroid
- Sub Area Moment of Inertia
- Sub Area Moment of Resistance
- Sub Area Moment of Inertia of Resistance
- Sub Area Moment of Resistance of Inertia
- Sub Area Moment of Resistance of Inertia of Resistance



PREPARED ON: 03/18/2015

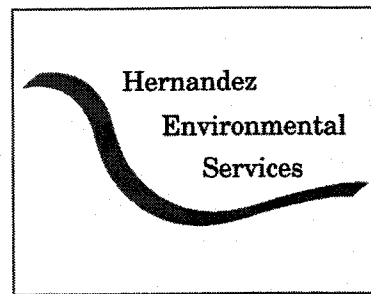
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LAND PLANNING
 CONSULTING
 CORPORATION, INC.



PROJECT NO.: 10000
 DATE:

CORONA CLAY
CONCEPTUAL DRAINAGE ALTERNATIVE

APPENDIX C
HABITAT ASSESSMENT
PREPARED BY HERNANDEZ
ENVIRONMENTAL SERVICES
MARCH 2015



Memorandum

Date: March 19, 2015

To: Marty Derus, Lilburn Corporation

From: Juan J. Hernandez, Principal Biologist

Subject: Habitat Assessment for an Approximately 0.94-Acre Area Located at the Corona Clay Facility at Park Canyon Parkway, Riverside County, California

This memorandum provides the results of a habitat assessment for a small 0.94-acre disturbed area at the Corona Clay facility located off Park Canyon Parkway, in Riverside County, California. Hernandez Environmental Services (HES) visited the site on March 10, 2015 to assess the dominant habitat in the disturbed area and surrounding terrain.

Project Location

The study area is located within Assessor's Parcel Number 283190021, at the Corona Clay facility in Riverside County, California. Access to the site is obtained via Park Canyon Drive.

Field Monitoring Methods

HES performed a pedestrian field survey of the study area with the purpose of determining the dominant vegetative habitat in the disturbed area and areas immediately surrounding the disturbed area. All plant and animal species observed were recorded and dominant vegetation types were determined.

Results

HES observed three habitat types in the study area: disturbed *Encelia farinosa* dominant coastal sage scrub, disturbed non-native vegetation dominant habitat, and areas that have been developed.

Disturbed *Encelia farinosa* Dominant Coastal Sage Scrub

The study area contained habitat that is dominated by *Encelia farinosa* or brittlebush. This plant is associated with coastal sage scrub. This habitat type showed signs of disturbance and also had a high percentage of non-native plant species. Other dominant plant species found in this habitat type are California buckwheat (*Eriogonum fasciculatum*), California poppy (*Eschscholzia californica*), sweetbush (*Bebbia juncea*), spurge (*Chamaesyce* sp.), common sandaster (*Corethrogyne filaginifolia* var. *filaginifolia*) crypantha (*Crypantha* sp.), California dodder

(*Cuscuta californica*), clustered tarweed (*Deinandra fasciculata*), deerweed (*Acmispon glaber*) common fiddleneck (*Amsinckia menziesii*), and White sage (*Salvia apiana*). This habitat type also contained a high percentage of non-native plants such as Russian thistle (*Salsola tragus*), slim oats (*Avena barbata*), black mustard (*Brassica nigra*), common mustard (*Brassica rapa*), riggut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), Downy chess (*Bromus tectorum*), tacalote (*Centaurea melitensis*), bull thistle (*Cirsium vulgare*), Burmuda grass (*Cynodon dactylon*), filaree (*Erodium sp.*), mustard (*Hirscheldia incana*), foxtail barely (*Hordeum murinum*), cheeseweed (*Malva parviflora*), horehound (*Marrubium vulgare*), and tree tobacco (*Nicotina glauca*).

Disturbed Non-Native Vegetation Dominant Habitat

The study area contained an access road and pad. This area was characterized as a disturbed non-native vegetation dominant habitat. The area was heavily disturbed. Dominant plant species found in this habitat type are black mustard, mustard, common mustard, Russian thistle, riggut brome, downy chess, tacolote, bull thistle, Burmuda grass, horehound, filaree, cheeseweed, and slim oats. This area did contain a few scattered plants of sweetbush-which is native.

Developed Areas

A small portion of the study area was already developed and contained roads, pads, and buildings associated with the clay facility. These areas did not have significant vegetation.

Animal species observed

The study area contained typical animal species associated with coastal sage scrub communities. Species observed were: House finch (*Haemorhous mexicanus*), song sparrow (*Melospiza melodia*), white crowned sparrow (*Zonotrichia leucophrys*), common raven (*Corvus corax*), great horned owl (*Bubo virginianus*), white-throated swift (*Aeronautes saxatalis*), coyote (*Canis latrans*), red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), western fence lizard (*Sceloporus occidentalis*), and Belding's orange-throated whiptail lizard (*Aspidoscelis hyperythra beldingi*).

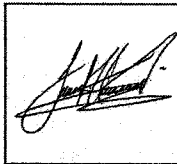
Revegetation Recommendations

It is recommended that a brittlebush dominant coastal sage scrub community be used for successful revegetation of the study area. Plants associated with this habitat include: brittlebush, California sagebrush (*Artemisia californica*), California buckwheat, white sage, deerweed, California poppy, fiddleneck, croton (*Croton californicus*), crypantha, tarweed, and bush sunflower (*Encelia californica*)

Certification

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: March 19, 2015

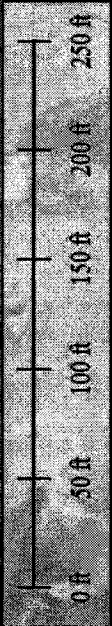
A square box containing a handwritten signature in black ink, which appears to be "Juan J. Hernandez".

Signed: _____


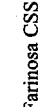

Juan J Hernandez
Principal Biologist

Enclosures:

Figure 1: Habitat Map
Study Area Photographs



Legend

-  Disturbed *Encelia Farinosa* CSS
-  Disturbed Non-native Vegetation Dominant
-  Developed Areas

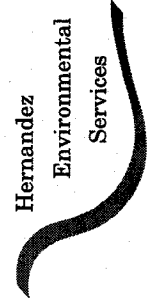


Figure 1 Habitat Map
 Corona Clay Habitat Assessment
 Corona clay
 County of Riverside, CA

Corona Clay Habitat Assessment
Riverside County, California

Hernandez
Environmental
Services

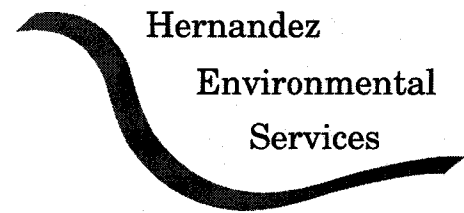


Disturbed brittlebush dominant coastal sage scrub.



Disturbed non-native dominant vegetation.

**Corona Clay Habitat Assessment
Riverside County, California**

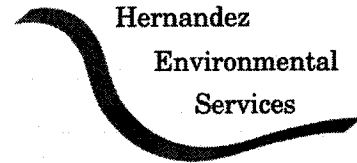


Photograph showing the access road which is dominated by non-native plants.



The developed areas of the Corona Clay facility

APPENDIX D
REVEGETATION DATA
PREPARED BY HERNANDEZ
ENVIRONMENTAL SERVICES
MAY 2016



Memorandum

Date: May 19, 2016

To: Marty Derus, Lilburn Corporation

From: Juan J. Hernandez, Principal Biologist

Subject: Revegetation Data for the Corona Clay Facility located at Park Canyon Parkway, Riverside County, California.

This memorandum provides the methods and results of a line-intercept survey performed at the Corona Clay mine site located in Riverside County, California. Hernandez Environmental Services (HES) visited the site on February 12, 2016 to collect baseline data needed to determine seed types and seeding rates, and to establish the success criteria for future revegetation efforts.

PROJECT LOCATION

The Corona Clay mine site located to the northeast of Park Canyon Road and Dawson Canyon Road, in Riverside County, California (Figure 1). Specifically, the mine site is located in Township 4 South, Range 6 West, Sections 26 and 35 San Bernardino Base and Meridian in the Lake Matthews United States Geological Survey (USGS) 7.5-minute topographic map (Figure 2).

FIELD MONITORING METHODS

In order to collect data needed to establish revegetation criteria, a random reference site was surveyed for shrub cover, density, and species richness (Figure 3). Transect endpoint locations were recorded on a handheld GPS. To evaluate vegetative cover, a series of 50-meter point-intercept transects were established; a vertical point was projected at each 0.5-meter interval and any plant, stem, or canopy intercepting the point was recorded. Shrub density and species richness were recorded in 100 square meter (m^2) plots located along the edge of the 50-meter transects and extending 2 meters out from its edge; all shrubs rooted in the plots and the number of different shrub species were recorded. Transects and plot locations were chosen randomly within the reference area. A total of five transects within each sample unit area were surveyed to provide baseline data needed to determine seed types and seeding rates, and to establish the success criteria for future restoration efforts. The data sheets for each transect are included as Appendix A.

RESULTS

Alluvial fan sage scrub habitat was identified as the dominant vegetation type on the proposed revegetation site. Therefore, a reference site containing alluvial fan sage scrub was surveyed.

Average absolute shrub cover for the reference site measured a mean of 50 percent. Average absolute native plant species shrub cover for the reference site measured a mean of 27 percent. The average native plant species shrub density for the reference site measured 26.2 shrubs per 100 m² plot. An average of 2.8 species was observed to occur per 100 m² plot on the reference site. Baseline cover results are summarized in Table 1; density and species richness results are summarized in Table 2.

Table 1.
Alluvial Fan Sage Scrub
100-Meter² Reference Plot
Baseline Cover Results

Transect Number	Unvegetated (%)	Mustard	Scalebroom	Deerweed	California Buckwheat	Cholla	Prickly Pear Cactus
1	49	29	20	2			
2	57	26	10	2	5		
3	54	10	28	8			
4	56	21	20	3			
5	33	30	35			1	1
Totals	249	116	113	15	5	1	1
Mean Percent Coverage	50	23.20	22.60	3.00	1.00	0.20	0.20
Total Mean Plant Coverage	50						
Total Mean Native Plant Coverage	27						

Table 2.
Alluvial Fan Sage Scrub
100-Meter² Reference Plot
Baseline Native Plant Density and Species Richness Results

Transect Number	Density	Diversity
1	18	2
2	18	3
3	49	3
4	22	2
5	24	4
Total	131	14
Mean	26.2	2.8

PLANTING METHOD

The revegetation area will be either hydroseeded or broadcast seeded by hand. Following seeding, the area will be raked in order to cover the seeds and protect them from desiccation and predation and to ensure good seed to soil contact. To ensure good seed germination, seeding will not occur in the summer when the weather is hot and the soil moisture content is at its lowest. No sustained irrigation will be available in the revegetation area.

IRRIGATION

The plant palette proposed for the revegetation area consists of primarily drought-tolerant plants species that should perform well without additional water. The average precipitation in the area should be sufficient for seed germination and root establishment of native species. Planting in the fall, prior to the winter rains, will be sufficient for seed germination and root establishment and reduce weed growth that is typically associated with supplemental irrigation. Scarification of the soil and the creation of surface rills and furrows will allow for maximized collection of water from rain events and run-off.

WEED CONTROL

The occurrence of non-native invasive species in the revegetation area shall be monitored by visual inspection. The goal is to prevent non-native invasive species from becoming established and depositing seeds in revegetated area. No area will be allowed to have more than 10 percent of the ground cover provided by non-native invasive species. If inspections reveal that non-native invasive species are becoming or have established in the revegetation area, then removal will be initiated. Inspections shall be made in conjunction with restoration monitoring.

Non-native invasive species removal will be accomplished through manual, mechanical or chemical methods depending on the specific circumstances. For example, solitary or limited numbers of non-native invasive shrub species will be manually removed (chopped) and the stumps sprayed with an approved weed killer such as Round-Up. Smaller plants (wild oats and bromes) that cover more area may be sprayed, scraped with a tractor, or chopped by hand, depending upon the size of the area of infestation and the number of desired native plants in proximity or mixed in with the non-native invasive species.

Reports of inspections and weed control implementation shall be part of the annual revegetation monitoring and kept on file by Corona Clay Company.

SEEDING METHODS AND RATES

The revegetation area will be seeded with a certified weed-free seed mix. Following seeding, the area will be raked in order to cover the seeds and protect them from desiccation and predation. A unique seed mix was developed for the revegetation area. The recommended seed mix and

seeding rates are outlined in Table 3. Depending on availability, no fewer than 3 and no more than 5 species from the recommended seed mix shall be utilized during revegetation.

Table 3.
Alluvial Fan Sage Scrub
Recommended Seed Mix and Rates

Species	Rate (Lbs/Acre)
<i>Adenostoma fasciculatum</i>	2.00
<i>Encelia actonii</i>	2.00
<i>Eriodictyon crassifolium</i>	1.00
<i>Keckiella antirrhinoides</i>	1.00
<i>Lepidospartum squamatum</i>	2.00
<i>Acemisson glaber brevialatus</i>	3.00
<i>Artemisia californica</i>	2.00
<i>Eriogonum fasciculatum</i>	4.00
<i>Hesperoyucca whipplei</i>	1.00
<i>Clarkia purpurea</i>	1.00
<i>Claytonia perfoliata</i>	1.00
<i>Chaenactis fremontii</i>	1.00
<i>Malacothrix glabrata</i>	1.00
<i>Amsinckia tessellata</i>	1.00
<i>Malacothamnus fasciculatus</i>	2.00
<i>Croton californicus</i>	1.00
<i>Cryptantha angustifolia</i>	1.00

SCHEDULE OF REVEGETATION

Seeding of the revegetation area shall occur at the appropriate time of the year and at an application rate for optimum seed sprouting and growth. Seeding is recommended to occur in the fall after the first substantial rains but prior to winter rains. Following the initial seeding, the revegetation area will be monitored annually, and as necessary, appropriate remediation action such as reseeding and weed removal will be determined at the time of monitoring.

SUCCESS CRITERIA

Successful revegetation will be achieved when a self-sustaining native plant cover is established in the disturbed areas of the revegetation area. The revegetation area must resemble and blend into the natural surrounding environment. The success of the revegetation effort will be determined through statistical comparison of the revegetated area to the baseline inventory. Successful revegetation must achieve 45% of the baseline cover, 45% of the baseline density, and 40% of the baseline diversity by the end of the monitoring period. The revegetation success criteria is outlined in Table 4.

**Table 4.
Alluvial Fan Sage Scrub
Recommended Success Criteria**

	Baseline Mean	Standard Success Percentage	Success Criteria
Cover	27%	45%	12.2% cover of native perennials
Shrub Density	26.2*	45%	11.8 native perennials per 100 m2
Species Richness	2.8*	40%	1.1 native perennials per 100 m2

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: May 19, 2016

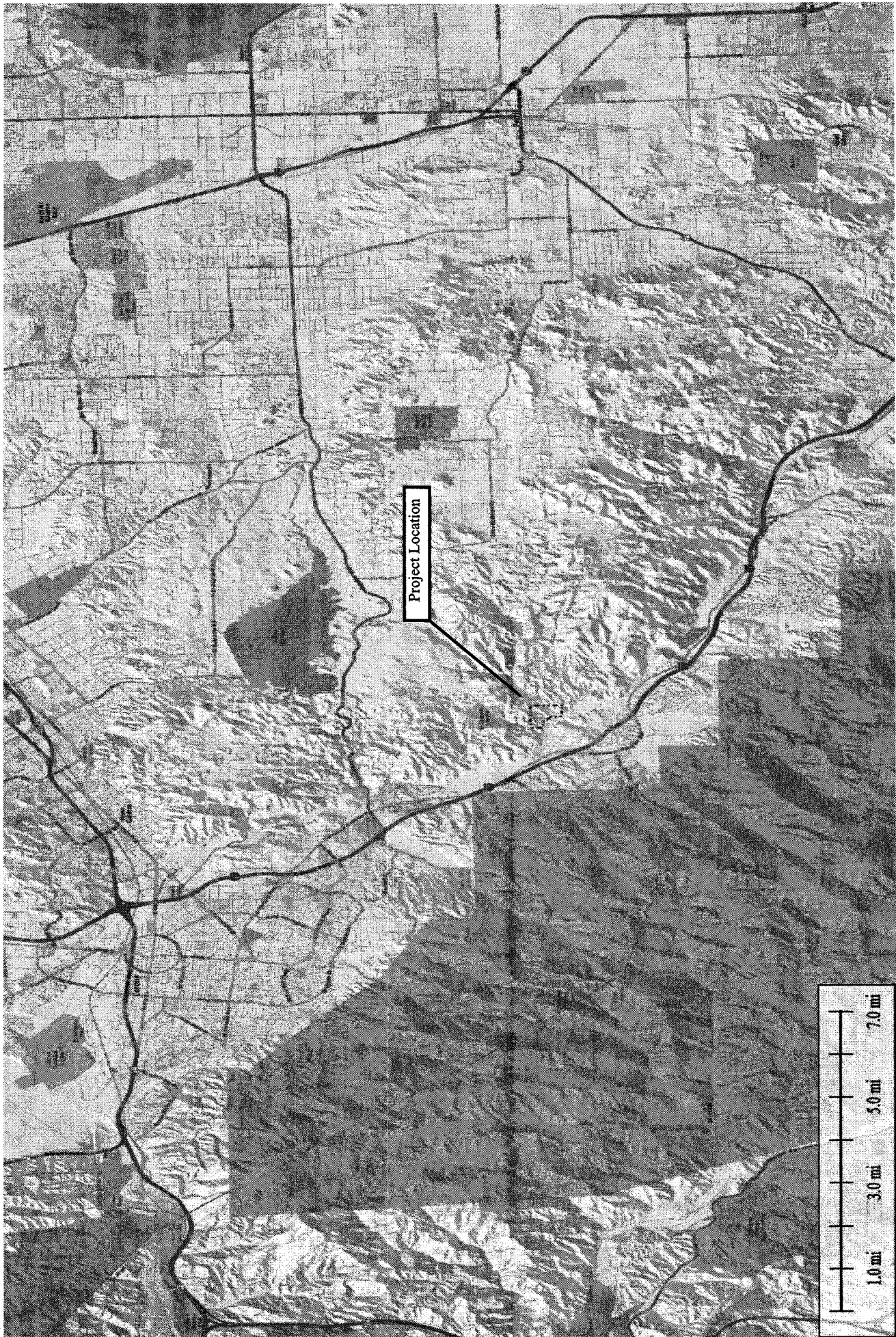


Signed: _____

Juan J Hernandez
Principal Biologist

Enclosures:

- Figure 1: Vicinity Map
- Figure 2: Location Map
- Figure 3: Reference Site Map
- Appendix A: Data Sheets



N

Hernandez
Environmental
Services

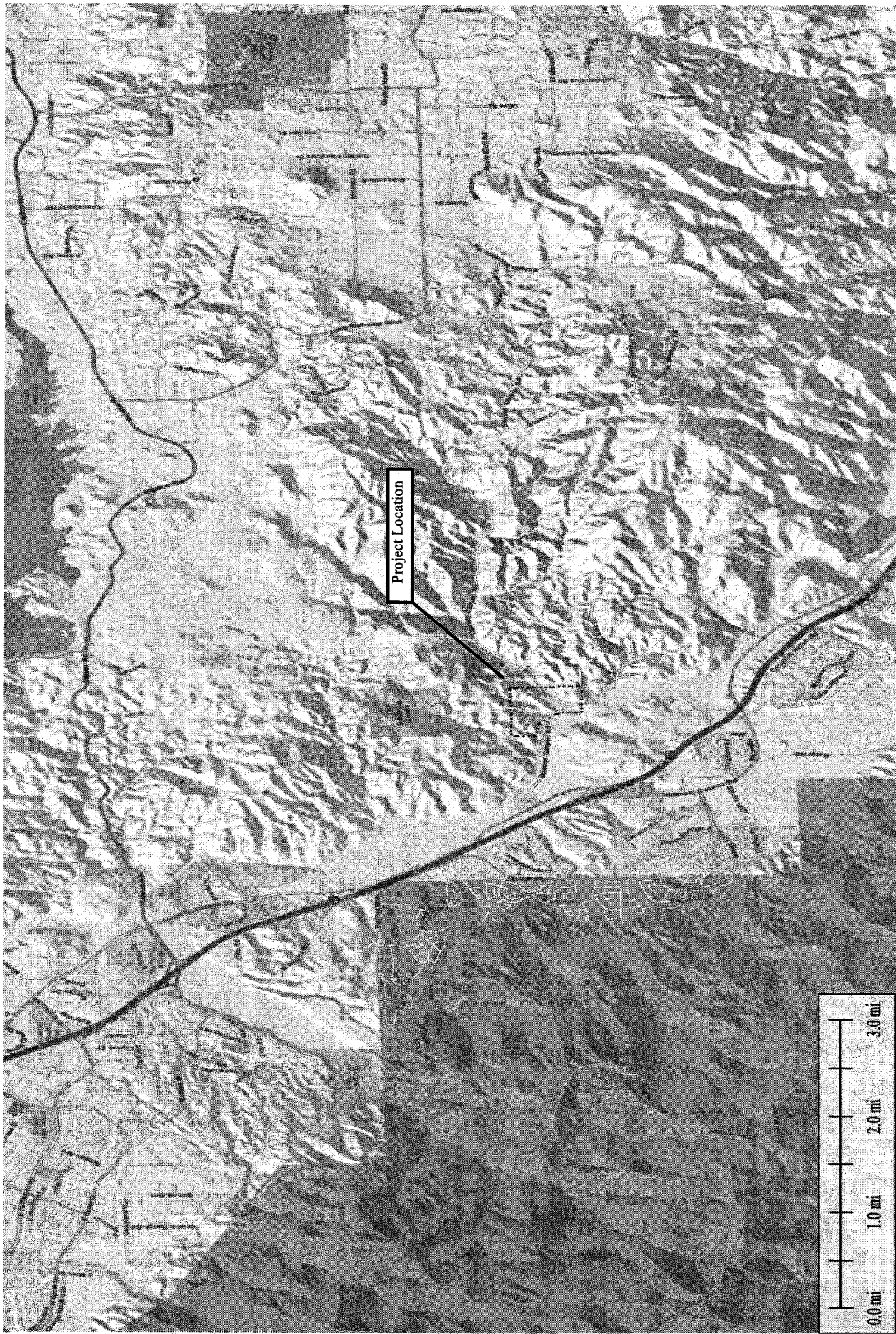
Legend

Property Boundary



Figure 1

Mine Vicinity Map
 Corona Clay Company
 Riverside County, California



Hernandez
Environmental
Services



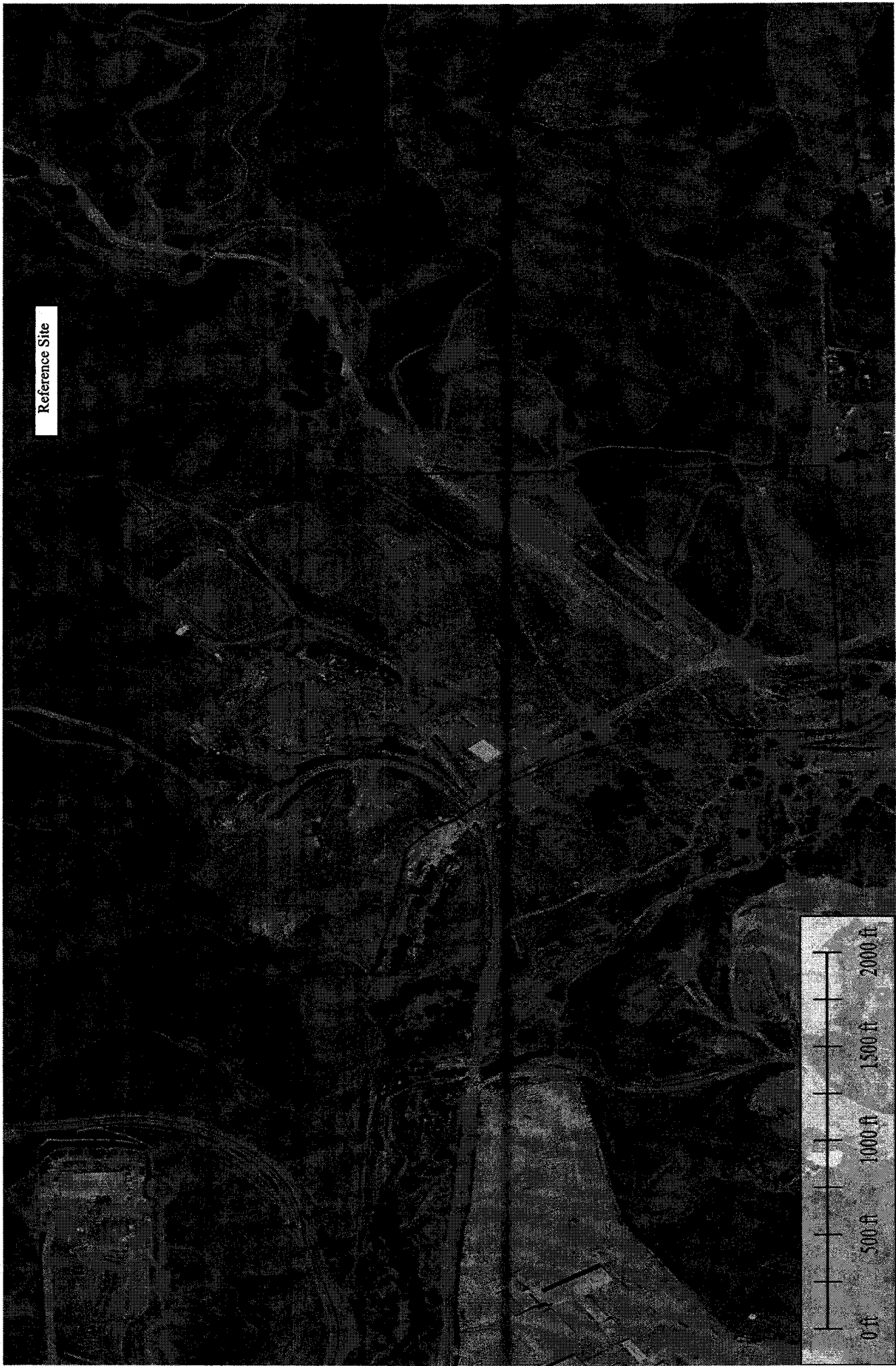
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Property Boundary

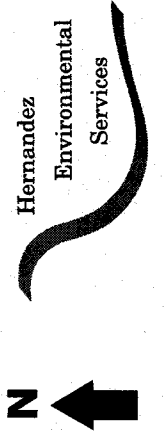
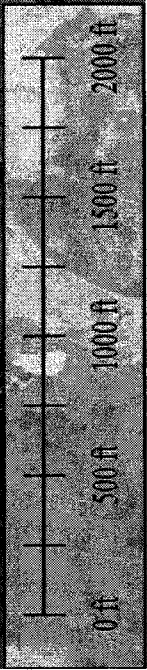


Figure 2

Mine Location Map
Corona Clay Company
Riverside County, California



Reference Site





 Mine Site Boundary
 Reference Site Transect Locations

Figure 3
 Reference Site Map
 Corona Clay Company
 Riverside County, California

Transect_1

Project: Corona Clay Transect: 1 Date: 02/12/16

Point Intercept Data Sheet-Cover, Density, Diversity

Point # Meters	Bare Ground,Rocks, Debris	Plant: Mustard	Plant: Scalebroom	Plant:Deerweed	Plant:California Sage	Plant: California Buckwheat
0.50	X					
1.00		X				
1.50		X				
2.00	X					
2.50	X					
3.00		X				
3.50		X				
4.00	X					
4.50	X					
5.00	X					
5.50	X					
6.00		X				
6.50		X				
7.00		X				
7.50		X				
8.00		X				
8.50		X				
9.00		X				
9.50		X				
10.00		X				
10.50	X					
11.00	X					
11.50		X				
12.00		X				
12.50		X				
13.00		X				
13.50		X				
14.00	X					
14.50		X				
15.00		X				
15.50	X					
16.00	X					
16.50	X					
17.00		X				
17.50	X					
18.00		X				
18.50	X					
19.00	X					
19.50	X					
20.00	X					
20.50	X					
21.00	X					
21.50	X					
22.00	X					
22.50	X					

Transect_1

Project: Corona Clay	Transect: 1	Date: 02/12/16
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Point Intercept Data Sheet-Cover, Density, Diversity

Point # Meters	Bare Ground,Rocks, Debris	Plant: Mustard	Plant: Scalebroom	Plant:Deerweed	Plant:California Sage	Plant: California Buckwheat
23.00	x					
23.50	x					
24.00	x					
24.50			x			
25.00			x			
25.50	x					
26.00	x					
26.50	x					
27.00		x				
27.50	x					
28.00				x		
28.50	x					
29.00	x					
29.50	x					
30.00	x					
30.50	x					
31.00		x				
31.50	x					
32.00	x					
32.50			x			
33.00			x			
33.50		x				
34.00		x				
34.50		x				
35.00	x					
35.50	x					
36.00			x			
36.50			x			
37.00			x			
37.50			x			
38.00			x			
38.50			x			
39.00			x			
39.50			x			
40.00			x			
40.50	x					
41.00	x					
41.50	x					
42.00			x			
42.50			x			
43.00		x				
43.50		x				
44.00	x					
44.50	x					
45.00	x					

Transect_1

Project: Corona Clay	Transect: 1	Date: 02/12/16
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Point Intercept Data Sheet-Cover, Density, Diversity

Point # Meters	Bare Ground, Rocks, Debris	Plant: Mustard	Plant: Scalebroom	Plant: Deerweed	Plant: California Sage	Plant: California Buckwheat
45.50	X					
46.00				X		
46.50	X					
47.00	X					
47.50	X					
48.00			X			
48.50			X			
49.00			X			
49.50			X			
50.00			X			
Totals	49	29	20	2		

Plant Count/Density (#Shrubs per plant):

Herbs Recorded:

Plant Name	Plant Count
Scalebroom	11
Deerweed	7

Transect	1
Plot Size	100m ²
Total Density	18
Total Diversity	2

Transect_2

Project: Corona Clay	Transect: 2	Date: 02/12/16
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Point Intercept Data Sheet-Cover, Density, Diversity

Point # Meters	Bare Ground,Rocks, Debris	Plant: Mustard	Plant: Scalebroom	Plant:Deerweed	Plant:California Sage	Plant: California Buckwheat
0.50	x					
1.00	x					
1.50		x				
2.00	x					
2.50		x				
3.00		x				
3.50						x
4.00						x
4.50						x
5.00						x
5.50						x
6.00	x					
6.50		x				
7.00		x				
7.50		x				
8.00	x					
8.50		x				
9.00		x				
9.50		x				
10.00		x				
10.50	x					
11.00		x				
11.50		x				
12.00		x				
12.50	x					
13.00	x					
13.50	x					
14.00	x					
14.50	x					
15.00	x					
15.50		x				
16.00		x				
16.50	x					
17.00		x				
17.50					x	
18.00					x	
18.50					x	
19.00					x	
19.50					x	
20.00					x	
20.50	x					
21.00	x					
21.50	x					
22.00	x					
22.50	x					
23.00	x					
23.50	x					
24.00	x					
24.50		x				

Plant Count/Density (#Shrubs per plant):

Herbs Recorded:

Plant Name	Plant Count
Scalebroom	9
Deerweed	6
California Buckwheat	3

Transect 2
Plot Size 100m²
Total
Density 18
Total
Diversity 3

Project: Corona Clay Transect: 3 Date: 02/12/16

Point Intercept Data Sheet-Cover, Density, Diversity

Point # Meters	Bare Ground,Rocks, Debris	Plant: Mustard	Plant: Scalebroom	Plant:Deerweed	Plant:California Sage	Plant: California Buckwheat
0.50	X					
1.00	X					
1.50	X					
2.00	X					
2.50	X					
3.00	X					
3.50					X	
4.00					X	
4.50		X				
5.00	X					
5.50	X					
6.00	X					
6.50	X					
7.00					X	
7.50	X					
8.00	X					
8.50	X					
9.00	X					
9.50	X					
10.00	X					
10.50	X					
11.00	X					
11.50	X					
12.00					X	
12.50		X				
13.00	X					
13.50	X					
14.00	X					
14.50	X					
15.00	X					
15.50					X	
16.00					X	
16.50	X					
17.00	X					
17.50	X					
18.00	X					
18.50	X					
19.00	X					
19.50	X					
20.00	X					
20.50	X					
21.00			X			
21.50			X			
22.00			X			
22.50			X			
23.00			X			
23.50			X			
24.00			X			
24.50			X			

Plant Count/Density (#Shrubs per plant):

Herbs Recorded:

Plant Name	Plant Count
Scalebroom	16
Deerweed	32
California Sage	1

Transect	3
Plot Size	100m ²
Total	
Density	49
Total	
Diversity	3

Transect_4

Project: Corona Clay Transect: 4 Date: 02/12/16

Point Intercept Data Sheet-Cover, Density, Diversity

Point # Meters	Bare Ground,Rocks, Debris	Plant: Mustard	Plant: Scalebroom	Plant:Deerweed	Plant:California Sage	Plant: California Buckwheat
0.50		X				
1.00	X					
1.50	X					
2.00		X				
2.50		X				
3.00		X				
3.50	X					
4.00	X					
4.50			X			
5.00			X			
5.50	X					
6.00	X					
6.50	X					
7.00		X				
7.50		X				
8.00		X				
8.50	X					
9.00	X					
9.50		X				
10.00	X					
10.50		X				
11.00		X				
11.50		X				
12.00	X					
12.50		X				
13.00	X					
13.50	X					
14.00	X					
14.50	X					
15.00	X					
15.50				X		
16.00		X				
16.50	X					
17.00	X					
17.50	X					
18.00		X				
18.50		X				
19.00		X				
19.50	X					
20.00	X					
20.50	X					
21.00				X		
21.50			X			
22.00		X				
22.50	X					
23.00		X				
23.50	X					
24.00	X					
24.50	X					

Plant Count/Density (#Shrubs per plant):

Herbs Recorded:

Plant Name	Plant Count
Scalebroom	9
Deerweed	13

Transect 4
Plot Size 100m²
Total Density 22
Total Diversity 2

Project: Corona Clay

Transect: 5

Date: 02/12/16

Point Intercept Data Sheet-Cover, Density, Diversity

Point # Meters	Bare Ground,Rocks, Debris	Plant: Mustard	Plant: Scalebroom	Plant:Deerweed	Plant:Cholla	Plant: Cactus
0.50	X					
1.00		X				
1.50	X					
2.00		X				
2.50		X				
3.00		X				
3.50		X				
4.00	X					
4.50	X					
5.00		X				
5.50		X				
6.00	X					
6.50	X					
7.00	X					
7.50	X					
8.00	X					
8.50		X				
9.00			X			
9.50			X			
10.00			X			
10.50			X			
11.00			X			
11.50			X			
12.00			X			
12.50			X			
13.00		X				
13.50		X				
14.00		X				
14.50		X				
15.00		X				
15.50	X					
16.00		X				
16.50			X			
17.00			X			
17.50			X			
18.00		X				
18.50	X					
19.00		X				
19.50		X				
20.00		X				
20.50		X				
21.00		X				
21.50		X				
22.00		X				
22.50	X					
23.00	X					
23.50	X					
24.00	X					
24.50			X			

Plant Count/Density (#Shrubs per plant):

Herbs Recorded:

Plant Name	Plant Count
Scalebroom	20
Cholla	1
Cactus	1
Deerweed	2

Transect	5
Plot Size	100m ²
Total	
Density	24
Total	
Diversity	4

PROJECT DESCRIPTION FOR CUP NO. 3265
CORONA CLAY COMPANY
DAWSON CANYON
February 2018

BACKGROUND

Corona Clay Company is submitting a CUP application in conjunction with General Plan Amendment (GPA) No. 1144, Surface Mine Permit (SMP) No. 197R1, and Change of Zone (CZ) No. 6381 to facilitate entitlement of existing on-site uses. Corona Clay Company owns four (4) parcels totaling 113.65 acres located approximately 0.75 miles east-northeast of the intersection of I-15 and Temescal Canyon Road. The site is specifically located to the northeast of Park Canyon Road and Dawson Canyon Road. The APNs and areas include 283-190-019 (43.72 acres); 283-190-021 (20.26 acres); 283-190-022 (33.91 acres); and 283-190-040 (15.76 acres). An additional parcel is leased from Southern California Edison (SCE); 283-190-041 (9.06 acres). The physical address for APN 283-190-021 is 10600 Dawson Canyon Road; Corona, CA 92883. The total project area is 122.71 acres.

As part of the overall entitlement process and in consultation with County staff, Corona Clay is also applying for a GPA, CZ, and an SMP to permit the existing land uses and reclamation within the most consistent and appropriate land use designations and zoning. GPA No. 1144 proposes to amend approximately 70 acres from Open Space-Mineral Resources (OS-MIN) to Open Space - Recreation (OS-REC). The General Plan Initiation Process (GPIP) was initiated in 2014, reviewed at a public hearing by the Planning Commission on October 15, 2014, and subsequently the Board of Supervisors adopted an order to initiate proceedings for GPA 1144 on November 24, 2014.

At the Land Development Committee (LDC) meeting in October 2015, County Planning recommended that the Change of Zoning should change approximately 101 acres of Mineral Resources (M-R) to Controlled Development Areas (W-2). Table 1 below lists the existing and proposed designations, zoning, and the land use areas.

PROJECT DESCRIPTION

The overall existing land uses are summarized in Table 1 and include:

- Six (6) motorcycle test tracks for motocross testing are leased to various motorcycle manufacturing companies. The tracks are utilized exclusively by the lessee and operated per a lease agreement with Corona Clay. The tracks only operate during daytime hours; no lighting is set up on the test tracks. The tracks are not open to the public. Each track is surrounded/protected by a 6-foot high chain link fence topped with three-strand barbed wire and has a 200 square-foot open sided shade structure (typical). Water is pumped into 6,000 to 12,000 gallon steel water tanks at each track and sprayed onto the tracks via agricultural type pipes and sprinklers to control dust and to compact the track surface. A 2.2-acre is available for administration, maintenance, and storage. The lessee is required by lease agreement to conduct all operations in compliance with all applicable laws,

ordinances, rules, regulations, orders, or directives of any government authority and shall not damage or deposit waste on leased lands. The motorcycle test tracks are used intermittently by up to six manufacturing companies with a peak season from October through May.

- Clay processing facility that imports broken clay tile and other rock, gravel, sand, and clay material to crush, screen and mix to produce its final products such as “Angel Mix” for baseball fields and other clay, soil, and rock mixes for landscaping, recreational trails and parks;
- Remote controlled model airplane field consisting of approximately 1.25 acres of paved runway and a shade structure. It is leased to a remote controlled airplane club;
- Existing right-of-ways and Park Canyon and Dawson Canyon roads used by the public; and
- Open space in the southern areas, on slopes, and around perimeter of developed areas.

APN 283-190-019

Existing Motorcycle Test Tracks No. 6A and 6B on approximately 5.4 acres (12% of parcel) with perimeter 6-foot high chain link fencing topped with 3-strand barbed wire. Two portable steel water tanks of 6,000 to 12,000-gallon capacity each and a pipe/sprinkler system for dust control and soil/track compaction. Two existing open-sided shade structures of approximately 200 sq. ft. each.

Existing remote-controlled model airplane air field on approximately 5.0 acres (11% of parcel) including approximately 1.2 acres of AC pavement (runway, apron, and parking), an open sided shade/covered parking structure of approximately 3,000 sq. ft., and small storage shed and portable toilet.

Park Canyon Road (1 acre) and Dawson Canyon Road (1.4 acres) are used by the public within this parcel. The remainder of parcel, approximately 30.9 acres, 71% of parcel, is vacant, open space with isolated illegal off-road vehicle use. Private motorcycle testing has no connection with illegal uses.

APN 283-190-021

Existing clay mix processing and products manufacturing facility on approximately 15.5 acres (77% of parcel); slope to be reclaimed under SMP 197R1 on one (1) acre (5% of parcel); and 3.6 acres to be left as open space within the 330-foot wide SCE power line easement on the north portion of site (18% of parcel). The clay facility imports broken clay tile and other rock, gravel, sand, and clay material to crush, screen and mix to produce its final products such as “Angel Mix” for baseball fields and other clay, soil, and rock mixes for recreational trails, parks, and landscaping. Site includes crushers, screens, conveyors, stockpiles, equipment storage, office (approximately 625 sq. ft.), caretaker’s residence (approximately 2,350 sq. ft.), power room (approximately 340 sq. ft.), three 1,000- gallon septic tanks and leach lines, and drainage controls and desilting basins to manage drainage on the slope, on-site drainage, and surrounding drainage that enters the site as shown on the exhibit and described in the Drainage Report and WQMP. A ROW of 0.2 acres (Lot B) is included on the west.

TABLE 1
CUP No. 3265, GPA No. 1141, & CZ No. 6361
CORONA CLAY DAWSON CANYON

APN	Area (acres)	Exist GP (acres)	Prop. GP	Exist Zoning (acres)	Proposed Zoning	Test Track (acres)	Model Air Field (acres)	Clay Facility (acres)	Roads used by Public	Open Space (acres)
19	43.72	MIN (21.7) W (5.9) RUR (15.1)	REC-21.7 W-nc RUR-nc	M-R (21.7) M-R-A (5.9) N-A: (15.1)	W-2 (21.7) M-R-A nc N-A nc	5.4	5.0	0	2.4	30.9
21	20.26	MIN	No Change	M-R	W-2	0	0	15.5	0.2 ²	4.6 ⁵
22	33.91	MIN	REC	M-R	W-2	19.7 ¹	0	0	0.7 ³	13.5
40	15.76	MIN	MIN (7) REC (8.7)	M-R	W-2	5.2	0	3.0	0.1 ⁴	7.5
41	9.06	MIN	REC	M-R	W-2	0.3	0	0	0	8.8
Totals	122.71					30.3	5.0	18.5	3.4	65.3
Land Use Percentages						25%	4%	15%	3%	53%

Updated February 2018

General Plan

Foundation for all GP Designations is Open Space (OS)

MIN – Mineral Resources

REC – Recreation

W – Water Resources

RUR – Rural

Zoning

M-R – Mineral Resources

M-R-A - Mineral Resources & Related Manufacturing

N-A – Natural Assets

W-2 – Controlled Development

Note land use totals may not equal total areas due to rounding to tenths of acres.

nc – no change

Roads used by Public – Dawson Canyon and Park Canyon roads including ROWs below.

1 – Includes cell tower of approx. 0.1 acres (not a part) and 2.2 acres of administration & maintenance facilities

2 – Includes 0.2 acres of ROW (Lot B)

3 - Includes 0.6 acres of ROW (Lot C) & 0.1 acres of Park Canyon Road outside of ROW

4 - Includes 0.1 acres of ROW (Lot A)

5 – Includes 1.0 acre of reclaimed slope per SMP 197R1

Approximately 20,000 tons of waste clay tile are imported on-site annually to produce specialty clay products for off-site sale. This amount varies with demand. The crushed and blended clay products stockpiled on-site are loaded onto 10- to 25-ton haul trucks by a loader and shipped to customers. Approximately 5 to a maximum of 20 trucks are expected per day depending on

production and demand. In addition, it is expected that up to 20 employee, delivery, and maintenance trips may occur per day.

There will be no mining of on-site clay or other materials on the subject site. Under SMP 197R1, approximately one acre of over-steepened slope will be recontoured and revegetated and returned to open space.

APN 283-190-022

Four (4) existing motorcycle test tracks on approximately 19.7 acres (58% of parcel): Test Track No. 2 on approximately 3.8 acres; No. 3 on approximately 5.4 acres; No. 4 on approximately 4.1 acres; and No. 5 on approximately 4.2 acres with perimeter 6-foot high chain link fencing topped with three-strand barbed wire around each track. One or two portable steel water tanks of 6,000 to 12,000-gallon capacity are located at each track and a pipe/sprinkler system is used for dust control and track compaction. One existing open-sided shade structure of approximately 200 sq. ft. is typically constructed at each track; two at Track No. 6.

An existing administration, storage, and maintenance area of approximately 2.2 acres (6% of parcel) is located to the west with the following existing structures/facilities as shown on exhibit:

- (1) Existing metal building (90 feet by 75 feet – 6,750 sq. ft.) for equipment repair and storage to be used for motorcycle repair and storage. One floor 25-foot height, 1 restroom, 1 10-foot by 10-foot office; Type of Construction: V-N.
- (2) Existing modular office (12 feet by 60 feet); 720 sq. ft. one floor, 16 feet high, occupancy classification: B. Type of Construction: V-N.
- (3) Existing modular office 1,020 sq. ft. one floor, 16 feet high, occupancy classification: B. Type of Construction: V-N.
- (4) Existing wireless cell tower fenced enclosure; approximately 40 feet by 40 feet; 1,600 sq. ft.; 105-foot high monopole with 10 foot by 20-foot equipment shelter. (Not a Part of CUP)
- (5) Existing 500 gallon propane tank.
- (6) Existing 1,000 gallon septic tanks (2).
- (7) ROW on 0.6 acres (Lot C).

Remainder of parcel (approximately 13.5 acres; 40% of parcel) consists of vacant slopes and open space with SCE easement for electrical power line alignment and steel tower with access road in northeast corner of parcel.

APN 283-190-040

Existing Motorcycle Test Track No. 1 is located on approximately 5.2 acres with perimeter 6-foot high chain link fencing topped with three-strand barbed wire. One or two portable steel water tanks of 6,000 to 12,000 gallon capacity each and a pipe/sprinkler system for dust control and track compaction. One existing open-sided shade structure of approximately 200 sq. ft. and two-story observation structure of approximately 375 sq. ft (approximately 33% of parcel) are located on-site. A ROW of 0.1 acres (Lot A) is located on the southeast.

Approximately 3.0 acres (approximately 19% of parcel) are part of the clay processing facility. These include a recycle broken clay tile stockpile area with grizzly screen, hoppers, and conveyors and clay facility storage and products area with an open sided storage structure (approximately 1,700 sq. ft.). The remainder of the parcel (7.5 acres; 48% of parcel) is open space and natural slopes.

APN 283-190-041

This parcel is leased by Corona Clay from SCE. A small portion of the existing Motorcycle Test Track No. 1 is located on approximately 0.3 acres (3% of parcel) with a perimeter 6-foot high chain link fencing topped with three-strand barbed wire. The remainder of the parcel (8.8 acres; approximately 97% of parcel) is open space within a 330-foot wide electrical power line alignment and steel tower with an access road in the northeast corner of this parcel.

ACCESS

The Project has access to Dawson Canyon Road and Temescal Canyon Road to the west via Park Canyon Road, an undedicated partially paved road entirely within properties owned by Corona Clay, maintained by Corona Clay and used by the public and by Dawson Canyon and Spanish Hills' residences as their primary access. The existing road that provides access to the project site is wholly within property owned by Corona Clay and is not a public right-of-way except for a small area at the entrance of the site. Exhibits prepared by K&A Engineering show this existing access and alignment along with a pavement analysis and are attached to this application.

In addition, K&A Engineering prepared alternative access exhibits as discussed with the County. These exhibits are also attached to this application.

TRAFFIC

The following vehicle and truck estimates are all generated from existing activities. The CUP does not propose to generate any new additional traffic than what occurs currently.

The Dawson Canyon Clay Facility generates approximately 5 to a maximum of 20 trucks per day up to six days/week depending on production and demand. In addition, it is expected that up to 20 employee, delivery, and maintenance trips may occur per day.

The motorcycle test tracks are used intermittently by up to six manufacturing companies with a peak season from October through May. The tracks are leased to specific companies that utilize the track per lease requirements with Corona Clay. It is estimated that approximately two or three small trucks and up to five other vehicles may utilize a test track on any one day. If all six tracks were utilized on the same day, this would amount to 18 small trucks and 30 vehicles. The tracks only operate during daytime hours; no lighting is set up on the test tracks.

The remote controlled airplane field is utilized by a local airplane club at their discretion. It is not open to the general public. It is assumed the site is mostly used on weekends and occasionally by fewer people during weekdays and that a busy weekend may have 10 vehicles at any one time.

Therefore, the total existing traffic on a day with six tracks operating would be approximately 38 truck trips and 50 vehicles trips. Assuming a passenger car equivalent (PCE) for the truck of 2, the total number of trips per day would be 126. The numbers of PCEs would be far less than 100 vehicle trips during peak hours.

APN: 283-120-014
 (Not A Part)
 F: COM DEV
 LU: PF
 Z: M-R
 Vacant

APN: 283-120-041

F: OS
 LU: MIN to REC
 Z: M-R to W-2

S 89 30' 11" W 805' +/-

APN:
 283-190-038
 (Not A Part)
 F: OS
 LU: MIN
 Z: M-R
 Vacant

N 00 12' 00" W

APN: 283-190-040

F: OS
 LU: MIN to REC
 Z: M-R to W-2

N 78 34' 11" W
 232.41'

APN: 283-190-042
 (Not A Part)
 F: COM DEV
 LU: LI
 Z: M-R
 Light Industrial

N 11 15' 28" W
 121.216.28'

Lot "A"

PARK CANYON ROAD



150 0 150 300

Scale: 1 inch = 300 feet

Prepared By: Lilburn Corporation 12/2015

LEGEND

--- CUP 3265 Property Line

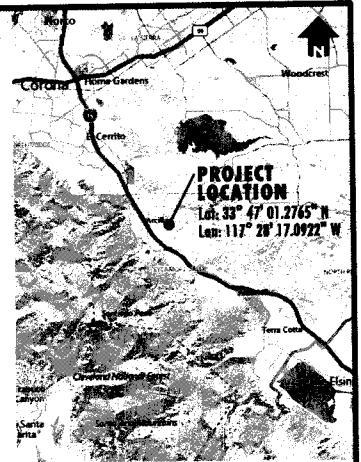
— Parcel Line

█ Proposed Change of Zone No. 63

— Existing Easement Line

--- USGS Section Line

⋯ Existing Roads



REGIONAL LOCATION

283-190-22; 283-190-040; and 283-190-041
 0600 Dawson Canyon Road, Corona, CA 92883

December 21, 2015

. 6361

of the northeast quarter of Section 35, T4 South, R6
 of the AT&SF railroad ROW (APN 283-190-043) and
 any line of Parcel Map 11561 on file in Book 58
 maps, Records of Riverside County.
 at Map #11561 as recorded in Parcel Map Book 58
 of Riverside County. Except 60-foot wide road
 drive of approx. 0.2 acres and estimated one (1) acre

#11561 as recorded in Parcel Map Book 58 pages
 side County. Except 60-foot wide road easement for
 xx. 0.6 acres.

ther with lettered Lot A, as shown by Parcel Map
 ages 33 and 34 of parcel maps, Records of Riverside
 acres recorded as APN 283-190-041.

6 acres of APN 283-190-040 recorded as APN
 Parcel Map 11561 on file in Book 58, pages 33 and
 of Riverside County.

n exhibit) and Acreages

34

Zoning and Land Use:

acres -Existing: Mineral Resources (M-R); Proposed:
 -2). Motorcycle test track, model airplane air field,
 son Canyon Road.
 : Mineral Resources & Related Manufacturing (M-R-A);
 ant, open space.
 g: Natural Assets (N-A). Proposed: No change. Vacant,

Proposed: W-2. Clay processing and manufacturing

Proposed: W-2. Four motorcycle test tracks,
 rtion of Park Canyon Drive, and storage/ancillary

Proposed: W-2. Motorcycle test track, recycled
 va and storage yards.

Proposed: W-2. Portion of motorcycle test track and
 d tower.

in.

Municipal Water District
 parcels).

iy

Norco Unified

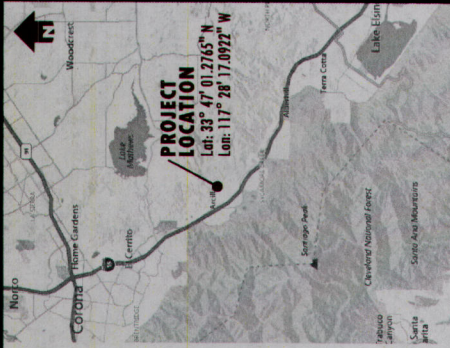
August 28, 2008. Zone X.

GE of ZONE NO. 6361

Corona Clay Company
 County of Riverside, California

PRIMARY EXHIBIT

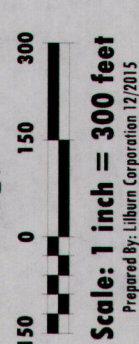
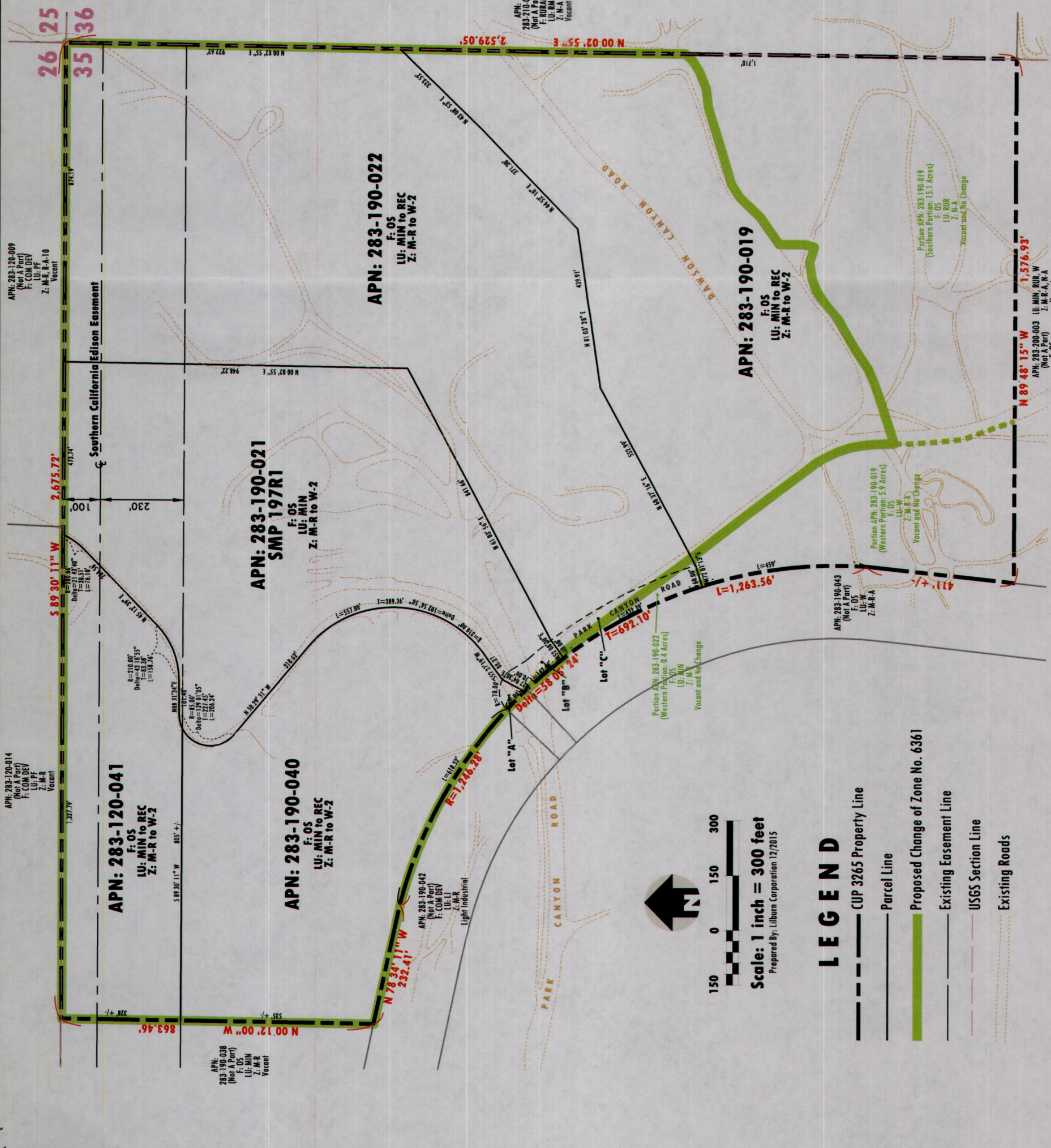
LILBURN
 CORPORATION



REGIONAL LOCATION

GENERAL NOTES

1. & 2. Applicant and Owner:
Corona Clay Company
Attn: Craig Deleo
22079 Knabe Road
Corona, CA 92883
951-277-2667
3. Exhibit Preparer:
Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92881
909-890-1818
4. APNs and Address:
283-190-019; 283-190-021; 283-190-022; 283-190-040; and 283-190-041
Address for 283-190-021: 10600 Dawson Canyon Road, Corona, CA 92883
7. Date Exhibit Prepared: December 21, 2015
8. CHANGE OF ZONE NO. 6361
9. Legal Land Descriptions:
283-190-019: That portion of the northeast quarter of Section 35, T4 South, R6 West, S88M, lying easterly of the AT&SF railroad ROW (APN 283-190-043) and southerly of the south boundary line of Parcel Map 11561, on file in Book 58 pages 33 and 34 of parcel maps, Records of Riverside County.
283-190-021: Parcel 2, Parcel Map #11561 as recorded in Parcel Map Book 58 pages 33 and 34, Records of Riverside County, Except 60-foot wide road easement for Park Canyon Drive of approx. 0.2 acres and estimated one (1) acre for Clay Canyon Road.
283-190-022: Parcel 3, Map #11561 as recorded in Parcel Map Book 58 pages 33 and 34, Records of Riverside County, Except 60-foot wide road easement for Park Canyon Drive of approx. 0.6 acres.
283-190-040: Parcel 1 together with lettered Lot A, as shown by Parcel Map 11561 on file in Book 58, pages 33 and 34 of parcel maps, Records of Riverside County except northern 9.06 acres recorded as APN 283-190-041.
283-190-041: Northern 9.06 acres of APN 283-190-040 recorded as APN 283-190-041, as shown by Parcel Map 11561 on file in Book 58, pages 33 and 34 of parcel maps, Records of Riverside County.
10. Overall Dimensions (on exhibit) and Acreages
Gross Acreage: 122.71
Net Acreage: 121.9
12. Thomas Bros. 2005
Page 804; F3, F4, G3 and G4
14. Existing and Proposed Zoning and Land Use:
283-190-019: Northern 18 acres -Existing: Mineral Resources (M-R); Proposed: Controlled Development (W-2), Motorcycle test track, model airplane air field, Park Canyon Drive and Dawson Canyon Road.
Western 6.4 acres -Existing: Mineral Resources & Related Manufacturing (M-R-A); Proposed - No change. Vacant, open space.
Southern 15.6 acres -Existing: Natural Assets (N-A); Proposed: No change. Vacant, open space.
283-190-021: Existing: M-R; Proposed: W-2. Clay processing and manufacturing facility and ancillary uses.
283-190-022: Existing: M-R; Proposed: W-2. Four motorcycle test tracks, equipment storage areas, portion of Park Canyon Drive, and storage/ancillary buildings.
283-190-040: Existing: M-R; Proposed: W-2. Motorcycle test track, recycled broken clay tile stockpile area and storage yards.
283-190-041: Existing: M-R; Proposed: W-2. Portion of motorcycle test track and SCE power line easement and tower.
16. Not within a Specific Plan.
17. Water -Elsinore Valley Municipal Water District
Sewer -Septic
Gas -The Gas Company
Electricity -SCE
Telephone -Mobile
School District - Corona Narco Unified
18. FEMA 06065C 1390G August 28, 2008, Zone X.



- LEGEND**
- CUP 3265 Property Line
 - Parcel Line
 - Proposed Change of Zone No. 6361
 - Existing Easement Line
 - USGS Section Line
 - Existing Roads

CHANGE OF ZONE NO. 6361

Corona Clay Company
County of Riverside, California

PRIMARY EXHIBIT



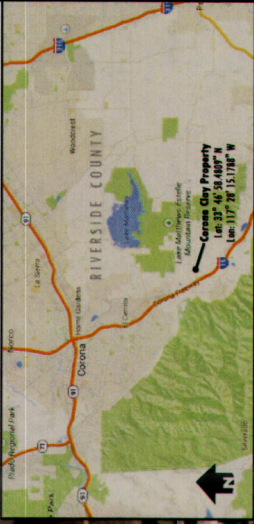
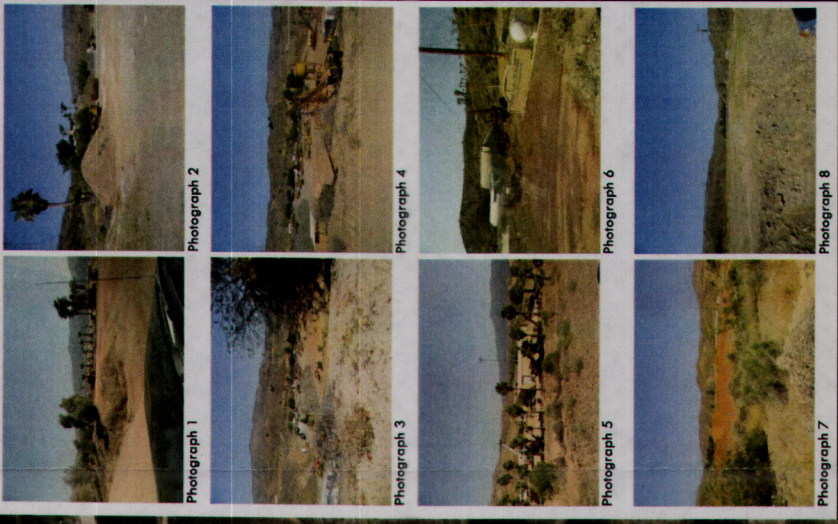


LEGEND

- Corona Clay CUP No. 3265
- Reclamation Plan Parcel
- Existing Parcel Line
- USGS Survey Section Line
- Intermittent Streams
- Photograph Number, Location and Direction of View



100 0 100 200
 Scale: 1 inch = 200 feet
 Photogrammetric, CA SPCS, Zone 6, NAD83 Feet,
 Aerial Date: November, 2013



No.	Date	By	Revision Description

CUP No. 3265
 Corona Clay
 COUNTY OF RIVERSIDE, CALIFORNIA

Scale: 1"=200'
 Date: 07/28/2014 (IAG)
 DCN: CC-Land Use Amendment 2014.gip

Prepared by:
LILBURN
 CORPORATION
 1100 Business Center Drive
 San Bernardino, CA 92408
 909.391.8118 Fax 909.391.1099

NOTE: See
 Sheet **1** of **1**

**AIR QUALITY AND
GREENHOUSE GAS ASSESSMENT
FOR
CUP No. 3265, SMP No. 197R1, CZ No. 6361
and GPA No. 1144**

**CORONA CLAY COMPANY'S
DAWSON CANYON FACILITIES**

Prepared For:

Corona Clay Company
22079 Knabe Road
Corona, CA 92883

Prepared By:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

January 2018

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1.0 INTRODUCTION

Corona Clay Company submitted a CUP application in conjunction with General Plan Amendment (GPA) No. 1144, Surface Mine Permit (SMP) No. 197R1, and Change of Zone (CZ) No. 6361 to facilitate entitlement of existing on-site uses. Corona Clay Company owns four (4) parcels totaling 113.65 acres located approximately 0.75 miles east-northeast of the intersection of I-15 and Temescal Canyon Road. The site is specifically located to the northeast of Park Canyon Road and Dawson Canyon Road. The APNs and areas include 283-190-019 (43.72 acres); 283-190-021 (20.26 acres); 283-190-022 (33.91 acres); and 283-190-040 (15.76 acres). An additional parcel is leased from Southern California Edison (SCE); 283-190-041 (9.06 acres). The total project area is 122.71 acres.

Corona Clay also submitted an application for a Reclamation Plan of a previously excavated hill side slope on its Dawson Canyon Clay Products Facility (SMP 197R1). Corona Clay will not conduct any further excavation on-site except for the planned reduction on the over-steepened slope described in this Reclamation Plan. The Air Quality Assessment for those reclamation activities described therein which will take place within the first year after approval are included in this report.

The project site consists of approximately 123 acres located five miles southeast of El Cerrito in the Gavilan Hills east of Interstate 15 (I-15). The surrounding area includes a concrete pipe manufacturing facility to the west (inactive), the El Sobrante Landfill $\frac{3}{4}$ miles to the northeast, several clay and aggregate pits in various stages of activity, and a composting facility. The property is located in the NE $\frac{1}{4}$ of Section 35, T4S, R6W, SBBM (see Figures 1 and 2). Elevations onsite range from near 980 feet above mean sea level (amsl) in the southwest corner where the site access is located, to a height of 1,200 feet amsl in the northern portion of the site.

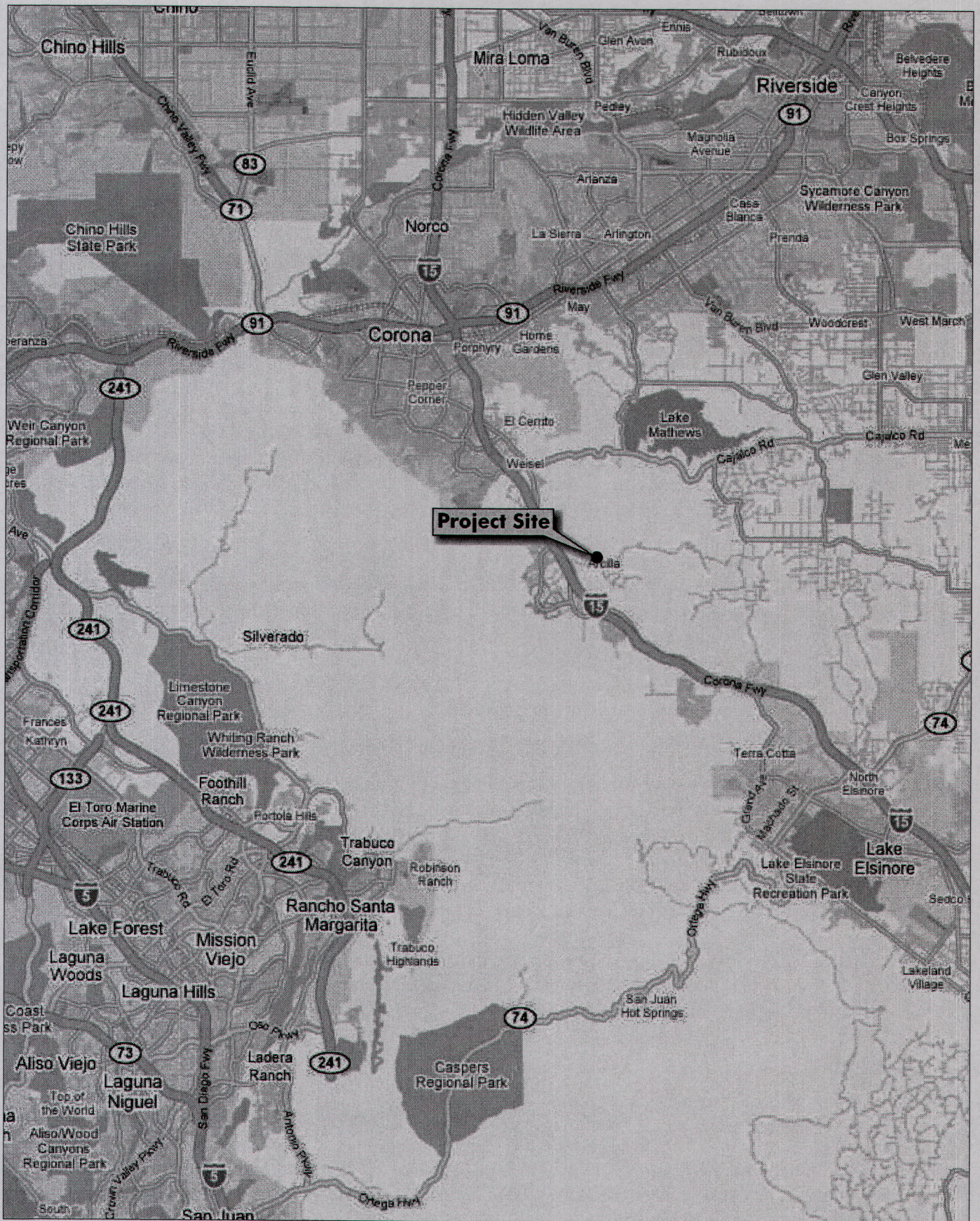
Per the request of the County, Lilburn Corporation (Lilburn) has prepared this Air Quality and Greenhouse Gas (GHG) Assessment. This assessment is based on the on-going activities planned to continue on-site under the CUP including the clay processing facility, motorcycle test tracks, and the model airplane field. No additional activities or an increase in existing activities are proposed under the CUP; only emissions from existing operations. No operational emissions are associated with the proposed Reclamation Plan.

This assessment discusses the existing air quality, applicable regulations, the existing and ongoing emissions related to the CUP and reclamation plan activities, the potential significance of emissions, and potential GHG impacts associated with the CUP activities.

2.0 GENERAL SETTING

2.1 CLIMATE

The project site is in the South Coast Air Basin (SCAB) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Air quality is determined primarily by the types and amounts of contaminants emitted into the atmosphere, the size and topography of the local air basin, and the pollutant-dispersing properties of local weather patterns. When airborne

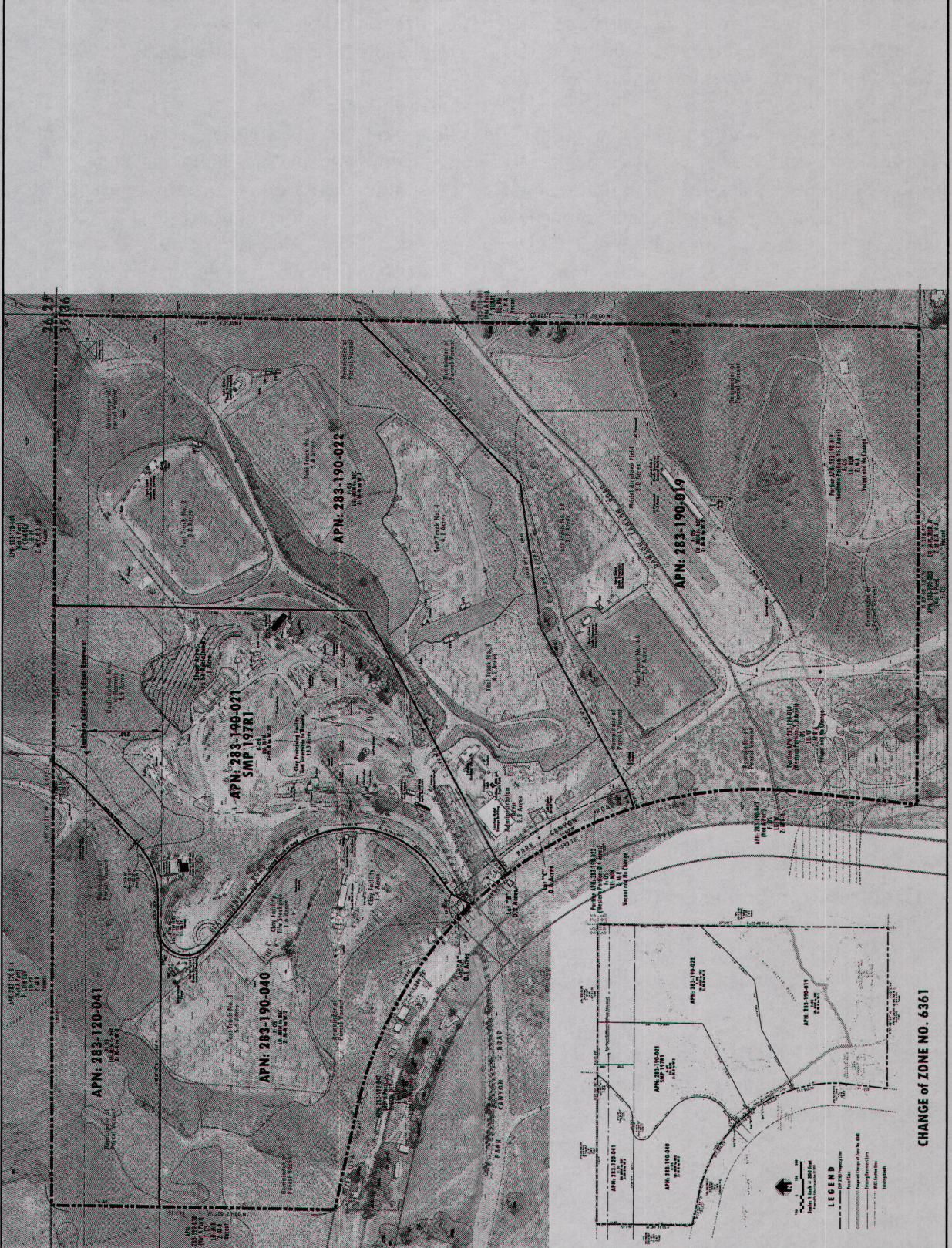


LILBURN CORPORATION

Regional Location

Dawson Canyon Reclamation Plan
 Corona Clay Company
 Corona, California

Figure 1



pollutants are produced in such volume that they are not dispersed by local meteorological conditions, air quality problems result. Dispersion of pollutants in the SCAB is influenced by periodic temperature inversions, persistent meteorological conditions, and the local topography. As pollutants become more concentrated in the atmosphere, photochemical reactions occur, producing ozone and other oxidants.

A major factor that influences the western Riverside County area's ambient air quality is its location downwind from the Los Angeles and Orange County Metro and industrial areas with substantial stationary and mobile pollution sources. Due to the meteorological and topographical factors of the region, air pollutants from the LA Basin are transported into western Riverside County contributing significantly to the ozone violations that occur. With the overall reduction in pollutant levels in the LA Basin, the result has been a decline in ozone violations in the local area.

The climate of western Riverside County Climate is typical Southern California weather, with mild winters and warm to hot, dry summers. Precipitation as measured in Corona averages approximately 12 inches a year. Average high temperatures in summer are in the low 90s. Average low temperatures are in the low 60s. During the winter, the average high temperatures are in the upper 60s to low 70s and average low temperatures are in the 40s.

Annual wind data for Corona shows that mostly westerly winds dominate with average winds of 7 mph. Winds of up to 20 mph occur with stronger on-shore or westerly flow and with occasional northeast Santa Ana winds in the fall.

2.2 APPLICABLE POLICES, PLANS AND REGULATIONS

The SCAQMD monitors and enforces the federal and state air quality standards in association with federal, state, local, and regional government agencies. These agencies work jointly as well as individually to reduce air pollution through legislation, regulation, policy making, education, and a variety of programs. These agencies include:

Environmental Protection Agency (EPA) - Responsible for setting and enforcing the national standards for atmospheric pollutants, including the Clean Air Act (CAA), as amended.

California Air Resources Board (CARB) - Part of the California Environmental Protection Agency (Cal-EPA) and responsible for assuring implementation of the California Clean Air Act (CCAA), responding to federal regulations, and regulating emission standards. Sets and implements limitations on emissions from mobile sources including vehicles and construction equipment.

SCAQMD - Primarily responsible for comprehensive air pollution control in the SCAB. SCAQMD implements the CAA and CCAA and works directly with federal, state, and local agencies. Sets regulations for stationary source emission sources.

Local Governments - Have the authority and responsibility to reduce air pollution through their local land use decision-making authority.

Air emissions from the proposed project are subject to federal, state, and local rules and regulations as implemented through provisions of the federal Clean Air Act, California Clean Air Act, and the 2016 Air Quality Management Plan (AQMP) adopted and updated regularly by SCAQMD. The following is an overview of these rules and regulations.

Federal Clean Air Act. The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as National Ambient Air Quality Standards (NAAQS). The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe of the public. The NAAQS set standards for the following pollutants:

- Nitrogen dioxide (NO₂)
- Sulfur dioxide (SO₂)
- Particulate matter less than 10 microns aerodynamic diameter (PM₁₀)
- Particulate matter less than 2.5 microns aerodynamic diameter (PM_{2.5})
- Ozone (O₃)
- Lead (Pb)

Primary and secondary NAAQS have been established and are shown in Table 1. Primary standards reflect levels of air quality deemed necessary by the EPA to provide an adequate margin of safety to protect public health. Areas found to be in violation of primary standards are termed "non-attainment areas". Secondary standards reflect levels of air quality necessary to protect public welfare from the known or anticipated adverse effects of a pollutant.

California Clean Air Act. Under the federal Clean Air Act, state and local authorities have primary responsibility for assuring that their respective regions are in attainment of, or have a verifiable plan to attain, the NAAQS. The federal Clean Air Act also provides state and local agencies authority to promulgate more stringent ambient air quality standards. The California Ambient Air Quality Standards (CAAQS) for the following pollutants are also included in Table 1.

- Hydrogen sulfide (H₂S)
- Vinyl chloride
- Sulfates (SO₄)
- Visibility-reducing particles

Under the provisions of the federal and California Clean Air Acts, areas not in attainment of the NAAQS or CAAQS are required to prepare an AQMP. An AQMP establishes an area-specific program to control existing and proposed sources of air emissions so that the NAAQS or CAAQS may be attained by the applicable target date. CARB and EPA are required to designate areas of the state as "attainment", "nonattainment", or "unclassified" for state and federal ambient air quality standards. An attainment designation for an area signifies that pollutant concentrations did not

**Table 1
State and National
Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards ¹		National Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃) ⁸	1-Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	---	Same as Primary Standard	Ultraviolet Photometry	
	8-Hour	0.07 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)			
Respirable Particulate Matter (PM ₁₀) ⁹	24-Hour	50 µg/m ³	Gravimetric or Beta Attenuation*	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		---			
Fine Particulate Matter (PM _{2.5})	24-Hour	---	Gravimetric or Beta Attenuation*	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³		12.0 µg/m ³			
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m ³)	Nondispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	---	Nondispersive Infrared Photometry (NDIR)	
	8-Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)			
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		-			
Nitrogen Dioxide (NO ₂) ¹⁰	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence	
	1-Hour	0.18 ppm (339 µg/m ³)		100 ppb (188 µg/m ³) ⁸			
Lead ^{12,13}	30-day average	1.5 µg/m ³	Atomic Absorption	-	Same as Primary Standard	High Volume Sampler and Atomic Absorption	
	Rolling 3-Month Average ¹¹	-		0.15 µg/m ³			
	Calendar Quarter	-		1.5 µg/m ³ (for certain areas) ¹²			
Sulfur Dioxide (SO ₂) ¹¹	24-Hour	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	0.14 ppm (for certain areas) ¹¹	-	Spectrophotometry (Pararosaniline Method)	
	Annual Arithmetic Mean	---		0.030 ppm (for certain areas) ¹¹			
	3-Hour	-		-			0.5 ppm (1300 µg/m ³)
	1-Hour	0.25 ppm (655 µg/m ³)		75 ppd (196 µg/m ³)			-
Visibility-Reducing Particles ¹⁴	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards			
Sulfates	24-Hour	25 µg/m ³	Ion Chromatography				
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence				
Vinyl Chloride ¹²	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

Source: ARB, May 4, 2016. <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM₁₀, PM_{2.5}, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, the U.S. EPA established a new 1-hour SO₂ standard, effective August 23, 2010. The secondary SO₂ standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO₂ standard concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately EPA standards are in units of parts per billion (ppb). California standards are in units of parts per million which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum of 0.14 ppm and the annual primary SO₂ standard of 0.030 ppm, effective August 23, 2010. Standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

violate the standard for that pollutant. A nonattainment designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an extraordinary event. An unclassified designation indicates a lack of adequate air quality data or other information on which to base an attainment or nonattainment designation.

The SCAB has been classified as non-attainment for ozone, PM₁₀, and PM_{2.5} in accordance with the federal and state Clean Air Acts.

2.3 EXISTING AIR QUALITY

Air quality is determined primarily by the types and amounts of contaminants emitted into the atmosphere, the size and topography of the local air basin, and the pollutant-dispersing properties of local weather patterns. When airborne pollutants are produced in such volume that they are not dispersed by local meteorological conditions, air quality problems result. Dispersion of pollutants is influenced by periodic temperature inversions, persistent meteorological conditions and the local topography. As pollutants become more concentrated in the atmosphere, photochemical reactions occur, producing ozone and other oxidants.

The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as NAAQS. The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe for the public.

NAAQS have been set for a number of criteria pollutants. The following is a brief description of health effects and whether the SCAQMD is or is not in attainment for these pollutants:

Ozone (O₃) is a toxic gas that irritates the lungs and damages materials and vegetation. Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO₂, which occur only in the presence of bright sunlight. Pollutants emitted from areas' cities react during transport downwind to produce the oxidant concentrations experienced in the area. Pollutants emitted in the Los Angeles area contribute to the ozone levels experienced in the local area.

Data summarized in Table 2 shows that the 1-hour state ozone standard exceeded 4 to 15 days over the past five years at the Lake Elsinore – W Flint Street monitoring station, the closest site to the project area. The federal 8-hour Ozone standard has been exceeded between 6 and 28 days and the state 8-hour standard exceeded on 13 to 45 days over the past five years.

Table 2
Ozone Data from the Lake Elsinore - W Flint Street Air Monitoring Site
2012 – 2016

Year	Days Exceeding One Hour State Standard	Days Exceeding 8-Hour Fed. Standard	Days Exceeding 8-Hour State Standard	Maximum One Hour Reading (ppm)
2012	10	17	32	0.090
2013	6	12	25	0.090
2014	4	6	13	0.104
2015	18	19	31	0.131
2016	15	25	44	0.124

Source: CARB, 2017

State Standard – 0.09 ppm based on one-hour average. No Federal one-hour standard (removed in 2006).

State 8-Hour Standard 0.070ppm; Federal 8-Hour standard is 0.075 ppm.

Carbon Monoxide (CO) is a gas produced almost entirely from automobiles that interferes with the transfer of oxygen to the brain. Peak levels of CO occur in winter and are highest where there is heavy traffic. CO levels are not a concern in the project area due to the low traffic volumes and are therefore not monitored.

Nitrogen dioxide (NO₂) is a gas that can cause breathing difficulties at high levels. Peak readings of NO₂ occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations). AAQS for NO₂ have not been violated since 1991.

Particulate Matter (PM₁₀) consists of extremely small-suspended particles or droplets 10 microns or smaller in diameter that can lodge in lungs contributing to respiratory problems. PM₁₀ arises from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations and windstorms. PM₁₀ scatters light and significantly reduces visibility. PM₁₀ poses a health hazard, alone or in combination with other pollutants. The SSAB is designated nonattainment for both the state and federal PM₁₀ standards.

Data summarized in Table 3 shows that during the last five years PM₁₀ levels have not exceeded the federal ambient air quality standards in the project area and that data has been insufficient to determine compliance with the state standard.

Fine Particulate Matter (PM_{2.5}) consists of extremely small-suspended particles 2.5 microns in diameter and arise primarily from combustion sources. The SCAQMD currently monitors PM_{2.5} in the urban areas of the SSAB such as Indio.

Data summarized in Table 4 shows that during the last five years, PM_{2.5} levels may infrequently exceed the ambient air quality standards in the project area.

Table 3
Particulate Matter (PM₁₀) Data
from the Lake Elsinore - W Flint Street Air Monitoring Site
2012 – 2016

Year	Days Exceeding State Standard	Days Exceeding Federal Standard	Maximum 24-Hour Reading (μ/m^3)
2012	*	0	65.5
2013	*	0	112.3
2014	*	0	86.8
2015	*	0	90.7
2016	*	0	99.7

State Standard – 50 μ/m^3 based on 24-hour average
 Federal Standard – 150 μ/m^3 based on 24-hour average
 μ/m^3 = micrograms per cubic meter
 Measurements taken every 6 days.
 *Insufficient Data
 Source: CARB, 2018

Table 4
Fine Particulate Matter (PM_{2.5}) Data
from the Lake Elsinore - W Flint Street Air Monitoring Site
2012 – 2016

Year	Days Exceeding State Standard	Days Exceeding Federal Standard	Maximum 24-Hour Reading (μ/m^3)
2012	N/A	*	24.9
2013	N/A	*	37.4
2014	N/A	*	33.7
2015	N/A	*	42.2
2016	N/A	*	31.5

No 24-hour State Standard for PM_{2.5}.
 Federal Standard – lowered to 35 μ/m^3 in 2006; based on 24-hour average.
 μ/m^3 = micrograms per cubic meter
 *Insufficient Data
 Source: CARB, 2018

Sulfur dioxide (SO₂) is a gas produced when fossil fuels are burned. SO₂ is the main pollutant contributing to the formation of acid rain. This pollutant does not exceed air quality standards in the SSAB.

Lead (Pb) is a heavy metal used in industry and for years was a component in gasoline. Since the elimination of lead as a gasoline additive, lead in the atmosphere in southern California has been virtually eliminated.

Hydrogen Sulfide (H₂S) This pollutant is not commonly found in the ambient atmosphere but can originate from natural sources such as volcanoes, sulfur hot springs, or mineral brine associated with the dry lakebeds. The state ambient air quality standard for H₂S is not health-based but rather an aesthetic one, because the compound smells like rotten eggs. This pollutant is not an issue.

Sulfates are produced by the reaction in the air of sulfur dioxide (SO₂), which is a component of acid rain. Sources for sulfur dioxide include coal burning power plants and diesel engines. California does not have any coal burning power plants and all diesel fuels sold in the state are now lower in sulfur and sulfates are not an issue in the area.

Visibility-reducing particles are common in the SSAB due to the vast open desert area, especially during windy conditions. Particles reduce visibility, obscuring the desert scenery, including views of the mountains. Dust control measures reduce particulates in the area.

Reactive Organic Compounds (ROC) In addition to these pollutants ROG is also considered in the air quality analysis of projects in the state. Ozone is a secondary pollutant that is the result of chemical reactions between other pollutants, most importantly reactive hydrocarbons (also referred to as ROG), and NO₂, which occurs only in the presence of bright sunlight. The result is the formation of smog. There are no federal or state air quality standards for hydrocarbons or ROG as there are for other pollutants; however the SCAQMD does have thresholds for determining the severity of emissions of several criteria pollutants including ROG.

AIR QUALITY ATTAINMENT PLANS

The project area is under the jurisdiction of the SCAQMD, which implements and enforces the applicable AQMP. The 2016 AQMP adopted by the SCAQMD Governing Board on March 3, 2017, incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories. The 2016 AQMP included the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches.

The primary guidance for implementing the air quality standards in relation to CEQA is the 1993 SCAQMD CEQA Air Quality Handbook as continuously updated. This handbook has been and is being revised and updated, but until the new edition is published, the 1993 version, as updated, is still a valid reference and directive.

SCAQMD regulates emissions from stationary sources through the permitting process and requires permits to Construct/Operate for all stationary equipment with the potential to release air contaminants. The SCAQMD cannot issue an air quality permit to operate to projects that may create a significant air quality impact or interfere with the AQMP and progress toward attainment of the federal air quality standards. Fugitive dust emission sources are required to implement best available fugitive dust control measures as recommended in Rule 403.1 and County Ordinance No. 742.

Corona Clay holds and maintains SCAQMD air quality permits to operate the clay crushing and screening facility with applicable water spray controls. The project utilizes commercial electric power to operate its equipment.

Climate Change and Greenhouse Gases

Gases that trap heat in the atmosphere are often called GHG, analogous to a greenhouse. GHG are emitted by natural processes and human activities. The accumulation of GHG in the atmosphere regulates the earth's temperature. Without these natural GHG, the Earth's surface would be approximately 61°F cooler (CA 2006). Emissions from human activities such as electricity production and vehicles have elevated the concentration of these gases in the atmosphere.

GHG have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas" (EPA 2006a). The reference gas for GWP is carbon dioxide; carbon dioxide has a GWP of one. For example, methane has a GWP of 25, which means that it has a greater global warming effect than carbon dioxide on a molecule per molecule basis. One teragram of carbon dioxide equivalent (Tg CO₂ Eq.) is the emissions of the gas multiplied by the GWP. One teragram is equal to one million metric tons. The carbon dioxide equivalent is a good way to assess emissions because it gives weight to the GWP of the gas. The atmospheric lifetime and GWP of selected GHG are summarized in Table 5. As shown in the table, GWP ranges from 1 (carbon dioxide) to 23,900 (sulfur hexafluoride).

Water vapor is the most abundant, important, and variable GHG in the atmosphere. It is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from ice and snow, and transpiration from plant leaves.

Carbon dioxide (CO₂) is an odorless, colorless natural GHG. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of carbon dioxide are from burning coal, oil, natural gas, and wood. Concentrations are currently around 370 ppm; some say that concentrations may increase to 540 ppm by 2100 as a direct result of anthropogenic sources (IPCC 2001). Some predict that this will result in an average global temperature rise of at least 2° Celsius (IPCC 2012).

**Table 5
Global Warming Potentials and Atmospheric
Lifetimes of Select Greenhouse Gases**

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide	50 – 200	1
Methane	12 ± 3	25
Nitrous Oxide	120	298
HFC-23	264	14,800
HFC-134a	14.6	1,430
HFC-152a	1.5	124
PFC: Tetrafluoromethane (CF ₄)	50000	7,390
PFC: Hexafluoroethane (C ₂ F ₆)	10000	12,200
Sulfur Hexafluoride (SF ₆)	3200	22,800

Source: IPCC AR4 (<https://www.arb.ca.gov/cc/inventory/background/gwp.htm>) June 6, 2017

Methane is a flammable gas and is the main component of natural gas. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released. There are no health effects from methane. A natural source of methane is from the anaerobic decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.

Nitrous oxide (N₂O), also known as laughing gas, is a colorless GHG. Higher concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, as an aerosol spray propellant, and in race cars.

Ozone is a GHG; however, unlike the other GHG, ozone in the troposphere is relatively short-lived and therefore is not global in nature. According to CARB, it is difficult to make an accurate determination of the contribution of ozone precursors (NO_x and VOCs) to global warming (CARB 2004). Therefore, project emissions of ozone precursors would not significantly contribute to global climate change.

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel with sulfur in it is burned. Black carbon (or soot) is emitted during biomass burning incomplete combustion of fossil fuels. Particulate matter regulation has been

lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Health and Other Effects

The potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (i.e., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution (EPA 2006c).

Riverside County Climate Action Plan

The County of Riverside adopted the County of Riverside Climate Action Plan (CAP) as part of their General Plan Amendment process on December 8, 2015. A discussion on the CAP and a review of the proposed project based on the CAP is provided.

The County has prepared and will implement the Riverside County CAP to help ensure that the impact of development on air quality is minimized, energy is conserved and land use decisions made by Riverside County and all internal operations within Riverside County are consistent with adopted state legislation. The CAP was designed under the premise that the County, and the community it represents, is uniquely capable of addressing GHG emissions associated with sources under Riverside County's jurisdiction, and that Riverside County's GHG emission reduction efforts should coordinate with the state strategies of reducing GHG emissions in order to accomplish these reductions in an efficient and cost-effective manner.

To fulfill the purposes of the CAP, the County identified the following goals to be achieved:

- Provide a list of specific actions that will reduce GHG emissions, giving the highest priority to actions that provide the greatest reduction in GHG emissions and benefits to the community at the least cost.
- Reduce emissions attributable to Riverside County to levels consistent with the target reductions of AB 32.
- Establish a qualified reduction plan for which future development within Riverside County can tier and thereby streamline the environmental analysis necessary under CEQA.

The CAP sets a target to reduce community-wide GHG emission emissions by 15% from 2008 levels by 2020 consistent with the state reduction goals in AB 32. The CARB Scoping Plan outlines the reduction strategies designed to meet the statewide reduction goal of AB 32. A

reduction strategy is described in Chapter 4 of the CAP that would meet the state reduction goal. Reduction measures provided would ensure that Riverside County meets the AB 32 reduction target of reducing to 15% below 2008 levels.

3.0 AIR QUALITY IMPACT EVALUATION

Thresholds of Significance

Air quality analyses for the proposed project have been conducted in accordance with the CEQA Air Quality Handbook and revisions prepared by the SCAQMD (through 2017). SCAQMD has established the following criteria and GHG emissions thresholds for determining whether the impacts from a project would be considered significant per CEQA. Note that the ongoing CUP activities are considered operations and are compared to operations thresholds below. The short-term reclamation activities are considered construction activities.

Thresholds of Significance for Construction:

- 75 pounds per day of ROC
- 100 pounds per day of NO_x
- 550 pounds per day of CO
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5}

Thresholds of Significance for Operations:

- 55 pounds per day of ROC
- 55 pounds per day of NO_x
- 550 pounds per day of CO
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀
- 55 pounds per day of PM_{2.5}

Thresholds of Significance for Greenhouse Gas Emissions:

- 10,000 metric tons of CO₂ equivalent (MTCO_{2e}) per year - (Threshold for Industrial Land Use project, SCAQMD)

3.1 PROJECT DESCRIPTION

The overall existing and ongoing land uses under the CUP are summarized below:

- Six (6) motorcycle test tracks for motocross testing are leased to various motorcycle manufacturing companies. The tracks are utilized exclusively by the lessee and operated per a lease agreement with Corona Clay. The tracks only operate during daytime hours; no lighting is set up on the test tracks. The tracks are not open to the public. Each track is surrounded/protected by a 6-foot high chain link fence topped with three-strand barbed

wire and has a 200 square-foot open sided shade structure (typical). Water is pumped into 6,000 to 12,000-gallon steel water tanks at each track and sprayed onto the tracks via agricultural type pipes and sprinklers to control dust and to compact the track surface. The lessee is required by lease agreement to conduct all operations in compliance with all applicable laws, ordinances, rules, regulations, orders, or directives of any government authority and shall not damage or deposit waste on leased lands. The motorcycle test tracks are used intermittently by up to six manufacturing companies with a peak season from October through May.

- Clay processing facility that imports broken clay tile and other rock, gravel, sand, and clay material to crush, screen and mix to produce its final products such as “Angel Mix” for baseball fields and other clay, soil, and rock mixes for landscaping, recreational trails and parks;
- Remote controlled model airplane field consisting of approx. 1.25 acres of paved runway and a shade structure. It is leased to a remote-controlled airplane club; and
- Open space in the southern areas, on slopes, and outside border areas.

The Reclamation Plan is designed to stabilize, control erosion, and revegetate the over-steepened one-acre slope on the northeast portion of the site, to construct necessary drainage controls on-site to avoid impacting the surrounding area, and to meet the County’s reclamation ordinance. The end use of the parcel will be the continued use of the site as a clay products facility entitled under a CUP. The slope will be reclaimed by reducing it to 1.5 horizontal to 1 vertical (1.5H:1V) and hydro-seeding with a native seed mix to limit future erosion of the hillside and to be consistent with the end use. No further excavations will be conducted on-site under the Reclamation Plan (besides the slope grading reclamation) or under the CUP.

3.2 CRITERIA POLLUTANTS EVALUATION

Conditional Use Permit

The CUP will entitle existing activities planned to continue on-site including the clay processing facility, motorcycle test tracks, and the model airplane field. No additional activities or an increase in existing activities are proposed under the CUP; only emissions from existing operations.

Approximately 20,000 tons of waste clay tile are imported on-site annually, then crushed and screened to produce specialty clay products for off-site sale. This amount varies with demand. The crushed and blended clay products stockpiled on-site are loaded onto 10- to 25-ton haul trucks by a loader and shipped to customers. Approximately 5 to a maximum of 20 trucks are expected per day depending on production and demand. All clay material used for the processing plant will be imported onto the site. There will be no mining of onsite clay or other materials on the subject site.

The clay processing facility consists of a feeder/hopper; two crushers; one screen; six conveyors; and one stacker/conveyor. The estimated emissions are detailed in Appendix A, Table A1. The

material unloaded and loaded on-site is accomplished with a dozer, front-end loader, 10-ton dump truck, and a water truck.

The following assumptions are incorporated into the air quality emissions inventory for the clay processing facility which is assumed to be open up to 8 hours/day; five days/week; and 50 weeks/year:

- Clay processing plant – at 4 hours/day, approx. 50 days per year; operated intermittently based on demand. Approx. 100 tons/ hour; 400 tons/day; and 20,000 tons/year
- Onsite Equipment - Dozer at 4 hours/day; Loader at 4 hours/day; water truck at 2 hours/day; and dump truck at 4 hours/day.
- SCAQMD Rules 403 and 1157 for dust control measures and mobile equipment emission limits as listed below are included in the emissions' estimates.
- Off-site Trucking – Estimated up to 20 truck trips per day at round trip average of 30 miles.
- Vehicles – Estimated 20 per day at round trip of 30 miles for clay facilities; 48 trips per day of 40 miles for motorcycle test tracks if all in operation on same day; 6 motorcycles operating intermittently for 8 hours per day; and 10 trips per day for the model airfield.

The motorcycle test tracks are used intermittently by up to six manufacturing companies with a peak season from October through May. The tracks are leased to specific companies that utilize the track per lease requirements with Corona Clay. It is estimated that approximately two or three small trucks and up to five other vehicles may utilize a test track on any one day. If all six tracks were utilized on the same day, this would amount to 18 small trucks/SUVs/vans and 30 vehicles. The tracks only operate during daytime hours; no lighting is set up on the test tracks.

The remote-controlled airplane field is utilized by a local airplane club at their discretion. It is not open to the general public. It is assumed the site is mostly used on weekends and occasionally by fewer people during weekdays and that a busy weekend may have 10 vehicles at any one time. Ten additional vehicles are added to the daily emissions.

The emissions calculations for the clay processing facility activities including vehicles associated with employees and the motorcycle track and model airfield vehicles are provided in Appendix A. The estimated air pollutant emissions and significance of the existing and planned emissions as compared to the thresholds above are summarized in Table 6. As shown, the existing and planned emissions from operations and activities are below the thresholds of significance and no significant air quality impacts are expected with implementation of existing rules and regulations.

Table 6
Dawson Canyon Clay Processing Facility (CUP 3265)
Estimated Air Pollutant Daily Emissions and Significance

		ROG	NO_x	CO	PM₁₀	PM_{2.5}
Equipment	Hours / Day	Lbs/Day	Lbs/Day	Lbs/Day	Lbs/Day	Lbs/Day
Loader	4	0.34	2.33	1.79	0.12	0.11
Dozer	4	0.47	3.18	2.15	0.18	0.17
Dump/Haul Truck	4	<0.1	0.06	<0.1	<0.1	<0.1
Water truck	2	<0.1	<0.1	<0.1	<0.1	<0.1
Clay Plant	4	---	---	---	0.92	0.27
Fugitive Dust (dozing, loading, unloading, road dust & stockpiles)	8	---	---	---	11.1	2.3
Trucks/Employee/ Track/Airfield Vehicles & Motorcycles On-Site	98 ¹	0.03	0.44	3.04	0.06	0.05
Trucks/ Employee/ Track/Airfield Vehicles Off-Site	104 ¹	3.49	14.22	38.44	1.04	0.95
Emissions Totals		4.5	20.3	45.6	13.4	4.1
CEQA Operational Thresholds		55	55	550	150	55
Significant?		No	No	No	No	No

See Appendix A for detailed emission inventory.

Scenario Year: 2018

1 – Number of vehicles per day; motorcycles estimated as 6 trips intermittently for 8 hours /day.

Emission Sources: SCAQMD EMFAC2007 Emission Factors for off-road mobile and on-road mobile vehicles; verified by Michael Krause at SCAQMD (12-22-2017) as adequate to use until District updates to EMFAC 2014 in its Air Quality section.

Particulate Matter Emission Factors - SCAQMD, July 2010; & AP-42 Section 13.2.2 EPA, November 2006.

* Dust related PM_{2.5} = 0.208 of PM₁₀ (CEIDARS List)

Reclamation Plan – Short-Term Construction (15 Days)

The proposed project is a Reclamation Plan designed to stabilize, control erosion, and revegetate the over-steepened one-acre slope on the northeast portion of the site and to construct necessary drainage controls on-site. It is expected that the slope grading would take approximately 10 days and the drainage controls another 5 days. Hydro-seeding would take one day. These activities may not take place on consecutive days nor occur concurrently.

The reclamation of the slope is estimated to require the removal of approximately 18,500 cubic yards of material to be stored on-site and used for road repair and fill on the owner's surrounding properties as needed. The slope grading and basin construction will be accomplished with a

dozer, front-end loader, 15-ton dump truck, and a water truck. The slope material will be pushed into stockpiles at the base of the slope or may be loaded onto trucks and deposited elsewhere on the site. The loader and dump truck will be used to excavate the detention basin.

The following assumptions are incorporated into the air quality emissions inventory for the reclamation plan:

- Onsite Equipment (Dozer at 8 hours/day for 10 days; Loader at 8 hours/day for 15 days; water truck at 4 hours/day for 15 days; dump truck(s) at 8 hours/day for 15 days, and hydro-seed truck for one day (this would be conducted after completion of other activities)).
- SCAQMD Rules 403 and 1157 for dust control measures and mobile equipment emission limits as listed below are included in the emissions' estimates.

The emissions calculations for the reclamation activities are provided in Appendices A6 and A7. The estimated air pollutant emissions and the significance of the increase in the proposed emissions as compared to the thresholds above are summarized in Table 7. As shown, the proposed emissions from reclamation activities are well below the thresholds of significance and no significant air quality impacts are expected.

**Table 7
Dawson Canyon Facility Reclamation Plan (SMP 197R1)
Estimated Air Pollutant Daily Emissions and Significance**

Equipment	ROG		NO _x	CO	PM ₁₀	PM _{2.5}
	Hours / Day	Lbs/Day	Lbs/Day	Lbs/Day	Lbs/Day	Lbs/Day
Loader	8	0.69	4.66	3.58	0.24	0.22
Dozer	8	0.95	6.37	4.31	0.37	0.34
Dump Truck	8	0.01	0.12	0.04	0.01	0.01
Water truck	4	0.01	0.06	0.02	0.01	0.01
Fugitive Dust (dozing, loading, unloading, & stockpiles)	8	---	---	---	18.1	3.8*
Emissions Totals		1.7	11.2	8.0	18.7	4.4*
CEQA Construction Thresholds		75	100	550	150	55
Significant?		No	No	No	No	No

Scenario Year: 2018

Emission Sources: SCAQMD EMFAC2007 Emission Factors for off-road mobile and on-road mobile vehicles; Particulate Matter Emission Factors - SCAQMD, July 2010; & AP-42 Section 13.2.2 EPA, November 2006.

* Dust related PM_{2.5} = 0.208 of PM₁₀ (CEIDARS List)

Note that if the daily totals for the approximately 15 days of short-term construction were added to the annual totals in Table 6, total emissions would still be well below the CEQA thresholds.

SCAQMD Regulatory Measures to Control Air Emissions

As part of compliance with SCAQMD Rules 403, 403.1, and 1157 to limit and prevent dust emissions from construction and earthmoving activities, Corona Clay is required to implement the following measures:

- Corona Clay maintains and annually renews its air quality permit to operate the clay processing plant from the SCAQMD with water sprays and covers for dust suppression;
- Water spray unpaved roads, active grading areas, and stockpiles so that no dust is visible more than 100 feet from any activity, equipment, stockpile, or disturbed area on-site;
- Limit speeds on unpaved internal roads to 15 mph;
- Water spray prior to and during material loading, unloading, and transferring activities;
- Operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 miles per hour;
- All loaded trucks egressing from the subject property shall be properly trimmed with a 6-inch freeboard height and/or covered and sprayed with water so as to minimize dust and prevent spillage onto the public roadway in compliance with California Vehicle Code No. 23114. In the event that spillage onto the road does occur, said spillage shall be removed from the road right-of-way.
- Commercial power shall continue be used for plant operations.
- During operations, trucks and vehicles in loading and unloading queues will have their engines turned off when not in use for more than 5 minutes to reduce idling and vehicle emissions. *(Note that this reduced idling limitation measure is required under Title 13, California Code of Regulations, Section 2485 Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. These are CARB enforced regulations; the on-site operator supervises vehicles that access the site for loading and unloading and off-road trucks and equipment to comply with this regulation.)*
- Maintain and tune all equipment according to manufacturer's specifications; and
- Comply with all existing and future CARB and SCAQMD regulations related to diesel-fueled trucks and equipment, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.

Mitigation for diesel emissions from equipment and trucks are embedded in the compliance for all diesel fueled engines, trucks, and equipment with the statewide CARB Diesel Reduction Plan. These measures are implemented by CARB in phases with new rules imposed on existing and new mobile diesel-fueled engines.

3.3 GHG EVALUATION

The County of Riverside has not adopted its own thresholds of significance for greenhouse gas emissions; however, the County's CAP has set a target to reduce community-wide GHG emission emissions by 15% from 2008 levels by 2020 consistent with the state reduction goals in AB 32. A reduction strategy is described in Chapter 4 of the CAP that would meet the state reduction goal.

The CEQA guidelines support projects that lower the carbon footprint of new development, and encourage programmatic mitigation strategies that may include reliance on adopted regional blueprint plans, CAPs and general plans that meet regional and local GHG emissions targets and that have also undergone CEQA review. The criteria needed to use adopted plans in evaluating impacts of GHG emissions from subsequent development projects is found in CEQA Guidelines Section 15183.5. The County of Riverside is responsible for ensuring that new projects conform to these guidelines and meet the goals and requirements outlined in the CAP. The County of Riverside will implement the reduction measures for new development during the CEQA review, through the use of a Riverside County GHG Screening Table document (CAP - Appendix F).

However, more unusual types of industrial projects such in this case construction-type mining activities cannot use the Screening Tables because the emission sources for those types of uses were not contemplated in the table. In Appendix F, the County determined that a project that emits less than 3,000 MTCO₂e defines a small project that is considered less than significant and so not need to use the Screening Tables or alternative GHG mitigation analysis.

GHG Thresholds and Potential Impact

On December 5, 2008, the SCAQMD Governing Board adopted an Interim GHG Significance Threshold for industrial projects where SCAQMD is the lead agency (e.g., stationary source permit project, rules, plans, etc.) of 10,000 MT CO₂e/year

For the existing project, onsite and mobile GHG emissions were screened using the SCAQMD "Air Quality Handbook" guidelines, Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks (Emfac 2007) (as verified to use by Michael Krause - SCAQMD 12-22-2017), and SCAQMD Off-Road Mobile Source Emissions Factors (year 2018). The pollutants screened included: carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Refer to Appendix A for GHG calculations.

Operational clay plant GHG emissions include emissions from electrical consumption. No other GHG emissions are generated from clay processing. Therefore, electrical usage based on monthly electric bills for the plant operations including all other CUP uses were evaluated using the California Climate Action Registry General Reporting Protocol, 2009I; Table C.2 and SCE monthly bills. The pollutants screened included: carbon dioxide, methane, and nitrous oxide. Refer to Appendix A7 for GHG electrical usage calculations.

Project-related GHG emissions are shown in Table 8 and were compared to the CAP threshold of 3,000 MTCO₂e and the interim SCAQMD threshold of 10,000 MTCO₂e per year as potentially significant to global warming. Utilizing these thresholds, the CUP operations and activities

including vehicle travel would not exceed the CAP or SCAQMD GHG thresholds and will not significantly impact global warming/climate change.

Note that the following air quality measures listed above also reduce GHGs:

- Commercial power shall continue to be used for plant operations in-lei of diesel powered generators.
- During operations, trucks and vehicles in loading and unloading queues will have their engines turned off when not in use for more than 5 minutes to reduce idling and vehicle emissions.
- Maintain and tune all equipment according to manufacturer’s specifications; and
- Comply with all existing and future CARB and SCAQMD regulations related to diesel-fueled trucks and equipment, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.

Table 8¹
Greenhouse Gas
CUP Activities - Annual Emissions (MTCO₂e)

Source/Phase	CO ₂	CH ₄	N ₂ O
Onsite Equipment	28.9	4.0	negl
On-site Vehicles	4.4	0.1	negl
Off-site Vehicles	427.2	0.4	negl
Electrical Usage	79.5	0.1	0.2
Reclamation Plan Emissions ²	12.5	2.1	negl
Total MTCO₂e per year	560		
CAP Threshold for Small Projects	3,000		
CAP Significant	No		
Threshold in MTCO ₂ e per year	10,000		
SCAQMD Significant	No		

¹ Refer to Appendix A tables and Section A7

² Short-term; only for 15 days during year 1.

MTCO₂e - metric tons of carbon dioxide equivalent

CO₂e – CH₄ x 25; N₂O x 598

Note that the proposed project will also be in compliance with several GHG reduction measures included in Appendix E of the CAP: “Reduction Measures, Assumptions, and Attributed Reductions.” These include the following:

- **R1-T 7 Goods Movement Efficiency Measures** - Project provides a local source of construction materials to reduce truck miles.
- **R1-T 8 Heavy-Duty Vehicle GHG Emission Reduction (Aerodynamic Efficiency)** - Operators are required to install aerodynamic improvements to trucks.

- **R1-T 10 Regional SB 375 Targets** – Regional reduction targets.
- **IM-T 8 Anti-Idling Enforcement** - This measure is required under Title 13, California Code of Regulations, Section 2485 Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. These are CARB enforced regulations; the onsite operator supervises vehicles that access the site for loading and unloading and off-road trucks and equipment to comply with this regulation.
- **IM-W 2 Construction Diversion Program** - This policy implements General Plan Policies AQ 4.1 and AQ 5.1 by giving incentives through points within the Screening Table to new development that provided diversion of 70% of construction waste. This provides a 20% increase in diversion that requires development projects to provide adequate areas for collecting and loading recyclable materials and ensures a 50% diversion rate prior to being issued a building permit.

The project site imports and recycles broken clay tiles and pipes, etc. and recycles these materials into landscape materials; thus reducing the amount of material mined and amount of material disposed in County landfills.

3.4 PROJECT CUMULATIVE IMPACT

As noted, the SCAB is currently in violation of federal and State air quality standards for ozone, PM₁₀, and PM_{2.5}. Any new project within the Basin, even if it does not have a significant impact by itself, may contribute emissions to the air basin regionally. Combined with the emissions of existing sources and other projected development, the total emissions may contribute to the exceedance of air quality standards in the region. Neither CEQA nor the SCAQMD have any methods to quantify the contributions of any one project to the violation of air quality standards. Each individual project of this size will have a nearly negligible effect on the basin's overall emissions and air quality.

In summary, cumulative air quality impacts are expected to be less than significant as Corona Clay implements required control measures under SCAQMD rules listed above and complies with stationary source permit regulations.

Cumulative GHG Review

An individual project cannot generate enough GHG emissions to influence global climate change. The project adds to this potential impact by its incremental contribution combined with the cumulative increase of other sources of GHGs, which when taken together may have a significant impact on global climate change. To address the State's requirement to reduce GHG emissions, the County prepared the CAP with the target of reducing GHG emissions within the unincorporated County by 15% below 2008 levels by the year 2020.

In Appendix F of the CAP, the County determined that a project that emits less than 3,000 MTCO₂e defines a small project that is considered less than significant and so not need to use the Screening Tables or alternative GHG mitigation analysis. The proposed project was estimated to produce annual GHG emissions of 560 MTCO₂e less than the 3,000 MTCO₂e

threshold; therefore, was found to be less than cumulatively significant and no mitigation measures are required.

4.0 REPORT SUMMARY

The CUP will entitle existing activities planned to continue on-site including the clay processing facility, motorcycle test tracks, and the model airplane field and reclaim the slope area. No additional activities or an increase in existing activities are proposed under the CUP; only emissions from existing operations.

Per the request of the County, the applicant prepared an Air Quality and GHG Assessment. As shown in Tables 6 and 7, due to the minimal emissions produced from the limited on-site activities, criteria pollutants would not exceed SCAQMD thresholds nor create cumulative impacts.

GHG emissions as summarized in Table 8 would also not exceed the CAP or the SCAQMD GHG threshold. Therefore, the existing project and the planned revision will not significantly impact air quality or GHG emissions/climate change. Air pollutant control measures listed herein will also reduce GHG emissions.

5.0 REFERENCES

California Air Resources Board. "Air Quality Data Summaries", 2018.

California Climate Action Registry General Reporting Protocol, January 2009

CA 2005 State of California, Executive Order S-3-05. June 1, 2005. Website <http://www.dot.ca.gov/hq/energy/ExecOrderS-3-05.htm>

CA 2005. State of California, Executive Order S-3-05. June 1, 2005. Website <http://www.dot.ca.gov/hq/energy/ExecOrderS-3-05.htm>

CA 2007. State of California, Environmental Protection Agency, Climate Action Team. April /October 2007. Climate Action Team Report to Governor Schwarzenegger and the California Legislature. Website www.climatechange.ca.gov/climate_action_team/reports/index.html

CARB 2004. California Environmental Protection Agency, Air Resources Board. July 21, 2004. Technical Support Document for Staff Proposal Regarding Reduction of Greenhouse Gas Emissions from Motor Vehicles Climate Change Overview. Website http://www.arb.ca.gov/cc/factsheets/support_ccoverview.pdf

CEC 2006. California Energy Commission. December 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. Staff Final Report. CEC-600-2006-013-SF. Website <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>

California Natural Resources Agency and AEP. "2017 CEQA Statue and Guidelines", January 2017.

County of Riverside, "Riverside County Climate Action Plan (CAP), December 2015

EPA AP-42, "Compilation of Air Pollutant Emission Factors" with updates through 2004.
Section 11.19.2, "Crushed Stone Processing and Pulverized Mineral Processing", August 2004.
Section 13.2.1, "Paved Roads", December 2003.
Section 13.2.2, "Unpaved Roads", October 2001.

EPA, Climate Leaders: Greenhouse Gas Inventory Core Module Guidance, May 2008

EPA 2006a. U.S. Environmental Protection Agency, Office of Atmospheric Programs. April 2006. The U.S. Inventory of Greenhouse Gas Emissions and Sinks: Fast Facts. <http://epa.gov/climatechange/emissions/downloads06/06FastFacts.pdf>

EPA 2006b. U.S. Environmental Protection Agency. 2006. High Global Warming Potential (GWP) Gases. Science. <http://www.epa.gov/highgwp/scientific.html>, Accessed December 2006.

EPA 2006c. U.S. Environmental Protection Agency. 2006. Climate Change - Health and Environmental Effects. <http://www.epa.gov/climatechange/effects/health.html> Accessed IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

South Coast Air Quality Management District (SCAQMD). "Air Quality Management Plan 2016", March 2017.

SCAQMD. "SCAQMD CEQA Handbook" (with updates) 1993 - 2017.

SCAQMD Emission Factors for On-Road Heavy-Heavy Duty Diesel Trucks ([http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-\(v2-3\)-emission-factors-\(on-road\)](http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-(v2-3)-emission-factors-(on-road)))

SCAQMD Off-Road Mobile Source Emissions Factors for Scenario Year 2018 (<http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors>)

APPENDIX A
CRITERIA POLLUTANTS AND GHG
EMISSIONS MODELING RESULTS TABLES
AND CALCULATIONS

**Table A1
Dawson Canyon Clay Facility
Stationary Source Emissions from Clay Processing Plant - Existing and Planned (No Change)**

Operation	Emission Factor	Units	Equation Variables			Emissions										
			1	2	3	PM-10 lbs/day	Particulate Control Efficiency	PM-10 lbs/day with control	PM-2.5 lbs/day with control	CO lbs/day	NOX lbs/day	SOX lbs/day				
Clay Processing Plant (typical)																
PM10 Hopper	0.0001	lbs/ton	Tons/hr	Operating Hours	3	0.02		0.02	0.00	NA	NA	0.00				
Jaw Crusher	0.0005	lbs/ton	100	4		0.22		0.22	0.01			0.01				
Cone Crusher	0.0005	lbs/ton	50	4		0.11		0.11	0.06			0.06				
Screen	0.0007	lbs/ton	150	4		0.44		0.44	0.03			0.03				
Conveyor	0.0001	lbs/ton	50	4		0.01		0.01	0.00			0.00				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Conveyor	0.0001	lbs/ton	100	4		0.02		0.02	0.01			0.01				
Sub-total						0.92		0.92	0.27			0.27				
Total						0.92		0.92	0.27			0.27				

Notes: Based on clay plant operations 4 hrs/day and 50 days/year producing 100 tph or 400 tpd. Hours and days will vary based on demand.

Sources: AP-42, SCAQMD

AP-42, Section 11.19 - Crushed Stone Processing and Sand and Gravel Processing; EPA August 2004
PM-2.5 = 0.3 of PM10 (CEIDARS Table A - Oct 2006)

Particulate Control Efficiencies are included in Emission Factors.

PM2.5 = 0.30 of PM10 (Source: Final - Methodology to Calculate PM 2.5 and PM2.5 Significance Thresholds, SCAQMD, October 2006; Appendix A - Table A

Final - Methodology to Calculate PM 2.5 and PM2.5 Significance Thresholds, SCAQMD, October 2006

Screens, hoppers, and conveyors include water sprays.

**Table A2
Dawson Canyon Clay Facility
Onsite Equipment Emissions (Existing & Planned) (No Change)**

Operation	Emission Factor	Units	Equation Variables		Emissions									
			1	Hours or Miles Per Day	PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	CO2 lbs/day	CH4 lbs/day		
Equipment Exhaust Emissions				Equipment #										
PM-10 & Dozer	0.0457	lbs/hr	1	4	0.183	0.168								
Wheel loader	0.0300	lbs/hr	1	4	0.120	0.110								
Water truck	0.0008	lbs/mile	1	2	0.002	0.001								
Dump Truck	0.0008	lbs/mile	1	4	0.00	0.003								
ROG														
Dozer	0.1185	lbs/hr	1	4			0.47							
Wheel loader	0.0861	lbs/hr	1	4			0.34							
Water truck	0.0013	lbs/mile	1	2			0.00							
Dump Truck	0.0013	lbs/mile	1	4			0.01							
CO														
Dozer	0.5387	lbs/hr	1	4				2.15						
Wheel loader	0.4470	lbs/hr	1	4				1.79						
Water truck	0.0060	lbs/mile	1	2				0.01						
Dump Truck	0.0060	lbs/mile	1	4				0.02						
NOX														
Dozer	0.7960	lbs/hr	1	4					3.18					
Wheel loader	0.5831	lbs/hr	1	4					2.33					
Water truck	0.0153	lbs/mile	1	2					0.03					
Dump Truck	0.0153	lbs/mile	1	4					0.06					
SOX														
Dozer	0.0013	lbs/hr	1	4						0.01				
Wheel loader	0.0012	lbs/hr	1	4						0.00				
Water truck	0.0000	lbs/mile	1	2						0.00				
Dump Truck	0.0000	lbs/mile	1	4						0.00				
CO2														
Dozer	114.00	lbs/hr	1	4							456.0			
Wheel loader	109.00	lbs/hr	1	4							436.0			
Water Truck	4.21	lbs/mile	1	2							8.4			
Dump Truck	4.21	lbs/mile	1	4							16.8			
CH4														
Dozer	0.0107	lbs/hr	1	4								0.0428		
Wheel loader	0.0078	lbs/hr	1	4								0.0312		
Water Truck	0.0001	lbs/mile	1	2								0.0001		
Dump Truck	0.0001	lbs/mile	1	4								0.0002		
Total (lbs/day)					0.31	0.28	0.83	3.98	5.61	0.01	917	0.07	4.02	
											Annual Metric Tons of CO2e (MTCO2e)		20.85	

Emission Sources: SCAQMD Offroad Mobile Source Emissions Factors 2018
 SCAQMD EMFAC2007 Model Emission Factors for On-Road Heavy-Duty Diesel Vehicles 2018
 PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)

Based on plant operations 4 hrs/day and 50 days/year producing 100 tpd or 400 tpd.
 Hours and days will vary based on demand.

Table A3
 Dawson Canyon Clay Facility and CUP
 Truck & Vehicle Exhaust Emissions On-Site - Existing & Planned (No Change)

Operation	Emission Factor	Units	Equation Variables		Emissions											
			1	2	PM-10	PM-2.5	ROC	CO	NOX	SOX	CO2	CH4				
			# of trips per day	vmt	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day			
Vehicle Emissions On-site																
PM-10 Aggregate Trucks	0.0008	lbs/mile	20	0.5	0.008	0.007										
PM-2.5 Motorcycles	0.0001	lbs/mile		480	0.048	0.044										
Vendor & Employee	0.0001	lbs/mile	20	0.25	0.000	0.000										
Track/airfield vehicles	0.0001	lbs/mile	58	0.5	0.003	0.002										
ROG																
Aggregate Trucks	0.0013	lbs/mile	20	0.5			0.0									
Motorcycles	0.0006	lbs/mile		480			0.00									
Vendor & Employee	0.0006	lbs/mile	20	0.25			0.00									
Track/airfield vehicles	0.0006	lbs/mile	58	0.5			0.02									
CO																
Aggregate Trucks	0.0060	lbs/mile	20	0.5				0.06								
Motorcycles	0.0058	lbs/mile		480				2.78								
Vendor & Employee	0.0058	lbs/mile	20	0.25				0.03								
Track/airfield vehicles	0.0058	lbs/mile	58	0.5				0.17								
NOX																
Aggregate Trucks	0.0153	lbs/mile	20	0.5					0.15							
Motorcycles	0.0006	lbs/mile		480					0.27							
Vendor & Employee	0.0006	lbs/mile	20	0.25					0.00							
Track/airfield vehicles	0.0006	lbs/mile	58	0.5					0.02							
CO2																
Aggregate Trucks	4.2100	lbs/mile	20	0.5							42					
Motorcycles	1.1100	lbs/mile		480							533					
Vendor & Employee	1.1100	lbs/mile	20	0.25							6					
Track/airfield vehicles	1.1100	lbs/mile	58	0.5							32					
CH4																
Aggregate Trucks	0.0001	lbs/mile	20	0.5											0.0008	
Motorcycles	0.0001	lbs/mile		480											0.0480	
Vendor & Employee	0.0001	lbs/mile	20	0.25											0.0003	
Track/airfield vehicles	0.0001	lbs/mile	58	0.5											0.0017	
Total					0.06	0.05		0.03	3.04	0.44	74				0.0508	0.1
													Annual Metric Tons of CO2e (MTCO2e)			

Emission Factors Source: SCAQMD On-Road Heavy Duty Diesel Trucks and On-Road Passenger Vehicles & Delivery Trucks (year 2018) as verified to use by Michael Krause - SCAQMD 12-22-2017
 PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)
 vmt = miles driven on-site
 Motorcycles estimated at 6 motorcycles per day driving 10 miles per hour or 80 miles/day or a total of 480 miles/day.
 Based on plant operations 4 hrs/day and 50 days/year producing 100 tpd or 400 tpd.
 Hours and days will vary based on demand.

Table A4
Dawson Canyon Clay Facility
Truck Movement Dust Emissions On-Site (No Change)

Operation	Emission Factor	Units	Equation Variables		Emissions		
			1	2	PM-10 lbs/day Unmitigated	PM-10 lbs/day Mitigated	PM-2.5 lbs/day Mitigated
Truck Travel Onsite	1.76	lbs/vmt	# of trips/day	vmt	17.6	4.4	0.9
Dump/Haul Trucks			20	0.50			
Total					17.6	4.4	0.9

Note: PM10 mitigation assumed to reduce emissions 75 percent on roads per AP-42 and SCAQMD.
Includes watering, some gravel surface, and speed limits.

vmt = vehicle miles driven

Source of Emission Factor: SCAQMD Particulate Matter Emission Factors
and AP-42, Chapter 13.2.2

$$E = k * (s/12)^{0.7} * (W/3)^{0.45}$$

E = PM10 emissions/vmt

k = constant (for PM10 = 1.5)

S = silt content (for sand & gravel plant road = 4.8%)

W = mean vehicle weight (street legal haul truck is 15 tons empty and 25 tons loaded) (Mean wt. = 17.5 tons)

Dust related PM2.5 = 0.208 of PM10 (CEIDARS List).

Based on plant operations 4 hrs/day and 50 days/year producing 100 tph or 400 tpd.
Hours and days will vary based on demand.

**Table A5
Dawson Canyon Clay Facility and CUP
Truck & Vehicle Exhaust Emissions Off-Site- Existing & Planned (No Change)**

Operation	Emission Factor	Units	Equation Variables		Emissions										
			1	2	PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	CO2 lbs/day	CH4 lbs/day			
													# of trips per day	vmt	
Vehicle Emissions On-site															
PM-10 Aggregate Trucks	0.0008	lbs/mile	20	40	0.62	0.57									
PM-2.5 Vendor & Employee Track/airfield vehicles	0.0001	lbs/mile	20	40	0.00	0.00									
ROG Aggregate Trucks	0.0001	lbs/mile	58	60	0.07	0.07									
	0.0013	lbs/mile	20	40	0.35	0.32	1.05								
Vendor & Employee Track/airfield vehicles	0.0006	lbs/mile	20	40			0.00								
CO Aggregate Trucks	0.0006	lbs/mile	58	60			0.46								
	0.0060	lbs/mile	20	40			1.98	4.83							
Vendor & Employee Track/airfield vehicles	0.0050	lbs/mile	20	40				0.00							
NOX Aggregate Trucks	0.0050	lbs/mile	58	60				4.00							
	0.0153	lbs/mile	20	40				17.40	12.21	12.21					
Vendor & Employee Track/airfield vehicles	0.0005	lbs/mile	20	40				0.00		0.00					
CO2 Aggregate Trucks	0.0005	lbs/mile	58	60				0.38		0.38					
	4.2076	lbs/mile	20	40				1.64		1.64					
Vendor & Employee Track/airfield vehicles	1.1100	lbs/mile	20	40											
CH4 Aggregate Trucks	1.1100	lbs/mile	58	60											
	0.0001	lbs/mile	20	40											
Vendor & Employee Track/airfield vehicles	0.0001	lbs/mile	20	40											
	0.0001	lbs/mile	58	60											
Total					1.04	0.95	3.49	38.44	14.22	Negl	7.229	0.257			
												Annual Metric Tons of CO2e (MTCO2e)		427.2	0.4

Emission Factors Source: SCAQMD On-Road Heavy Duty Diesel Trucks and On-Road Passenger Vehicles & Delivery Truck for Year 2018

as verified to use by Michael Krause - SCAQMD 12-22-2017

PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)

vmt = average round trip miles driven off-site

Clay trucks estimated at max. approx. 130 days/year

Motorcycle Trucks estimated utilized approx. 26 weeks at 5 days/week or 130 days/year

Hours and days will vary based on demand.

**APPENDIX A6
DAWSON CANYON CLAY OPERATIONS
(SMP 197R1)**

FUGITIVE DUST EMISSIONS ESTIMATES

Stockpiles

Emissions from the activities surrounding stockpiles include loading; unloading or removing; and wind erosion.

Emission Factor = 0.009 lbs/ton (uncontrolled)

Emission Factor = 0.00045 lbs/ton (controlled with water spraying)

Source: AP-42 Section 13.2.4 (EPA, November 2006)

$EF (PM_{10}) = k * (0.0032) * (U/5)^{1.3} / (M/2)^{1.4}$ lb/ton

U (mean wind speed) = 12 mph (SCAQMD default factor)

Moisture content (M) = 1% Dry

k (PM₁₀) = 0.35

$EF (PM_{10}) = 0.35 * (0.0032) * (12/50)^{1.3} / (1/2)^{1.4}$
 $= 0.00112 * 3.12/0.38$
 $= 0.009$ lbs/ton (uncontrolled)

EF (PM₁₀) with control = 95% (SCAQMD reference above)

EF (PM₁₀) with control = 0.009 * 0.05 = 0.00045 lbs/ton (controlled)

PM₁₀ Emissions = 800 tons/day (loaded & removed from stockpile based on production of 400 tons/day) * 0.00045 lbs/ton = **0.4 lbs/day**

Loading of Trucks

Emissions from loading material at product stockpiles into haul trucks (up to 20 loads/day or 400 tons/day).

Emission Factor for PM = 0.00015 lbs/ton (controlled with water spraying)

PM₁₀ = 0.489 of PM (CEIDARS – CARB 2006)

PM₁₀ Emission Factor = 0.00015 * 0.489 = 0.00007 lbs/ton (controlled)

PM₁₀ Emissions = 400 tons/day (loaded onto truck) * 0.00007 lbs/ton = **0.1 lbs/day**

Source: Particulate Matter Emission Factors (SCAQMD, July 2010)

Dozing Activities

Emissions from dozing and pushing material and excavations.

Emission Factor = 0.009 lbs/ton (uncontrolled)

Emission Factor = 0.00045 lbs/ton (controlled with water spraying)

Source: AP-42 Section 11.9 (EPA, 1998)

$EF (PM_{10}) = k * s^{1.5} / M^{1.4} \text{ lb/hr}$

Silt content (s) = 7.5% (SCAQMD default factor)

Moisture content (M) = 1% Dry

k (PM10) = 0.75 (for PM10)

$EF (PM_{10}) = 0.75 * (7.5^{1.5} / 1^{1.4})$
 $= 0.75 * 20.5/1$
 $= 15.4 \text{ lbs/hr (uncontrolled)}$

EF (PM10) with control = 90% with moisture content of 5% (SCAQMD reference above)

EF (PM10) with control = $15.4 * 0.1 = 1.54 \text{ lbs/hrn (controlled)}$

PM10 Emissions = 4 hrs/day * 1.54 lbs/hr = **6.2 lbs/day**

APPENDIX A7

GHG EMISSIONS ESTIMATES FROM ELECTRIC POWER USAGE

GHG Emissions from On-site Plant and Overall Electricity Usage¹ (MTCO_{2e})

	CO ₂	CH ₄	N ₂ O
Total MWh per month ²	22.4	22.4	22.4
Total MWh per year	269	269	269
GHG Emission Rates (lbs/MWh) ³	650.3	0.031	0.006
Total MTCO_{2e} per year	79.5	0.1	0.2

MTCO_{2e} - metric tons of carbon dioxide equivalent

1 - California Climate Action Registry General Reporting Protocol, 2009I, Table C.2

2 - SCE Electrical Usage Report for site;

3 - US EPA's Emissions and Generation Resource Integrated Database (eGRID2012) October 2015 for SCE Area

CO_{2e} for CH₄ x 25; for N₂O x 598.

APPENDIX B
AIR QUALITY PERMIT INFORMATION



Facility Information Detail (FIND)

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Facility Details

Facility ID 52086
Company Name CORONA CLAY CO
Address 10600 DAWSON CANYON RD
 CORONA, CA 92883

Status ACTIVE

Are there any back fees due?

No.

SIC Code	Description
3251	BRICK AND STRUCTURAL CLAY TILE



Facility Information Detail (FIND)

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Equipment List

Facility ID 52086
Company Name CORONA CLAY CO
Address 10600 DAWSON CANYON RD
 CORONA, CA 92883

Appl_Nbr	Permit_Nbr	Issued_Date	Permit_Status	Eq_Type	Equip_Description	Appl_Date	Appl_Status
231821				Basic	CLAY SIZE REDUCTION	6/28/1990	APPLICATION DENIED
02897R	03008R	2/16/1977	ACTIVE	Basic	CLAY SIZE REDUCTION	1/1/1990	PERMIT TO OPERATE GRANTED
02897R	03008R	2/16/1977	ACTIVE	Control	SHIP HOLD HATCH COVER	1/1/1990	PERMIT TO OPERATE GRANTED
142130				Basic	CLAY SIZE REDUCTION	3/3/1986	APPLICATION CANCELLED
142130				Control	SHIP HOLD HATCH COVER	3/3/1986	APPLICATION CANCELLED

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Page 1 of 1
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Compliance

Facility ID 52086
Company Name CORONA CLAY CO
Address 10600 DAWSON CANYON RD
 CORONA, CA 92883

Notices Of Violaton: NONE

Notices To Comply: NONE



Facility Information Detail (FIND)

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 [Equipment List](#) |
 [Compliance](#) |
 [Emissions](#) |
 [Hearing Board](#)

Application Details

Application/Tracking Number 02897R

Facility Information

Business Name CORONA CLAY CO

Facility ID 52086

Facility Status ACTIVE

Application Information

Application Type Equipment On-Site But Not Constructed or Operational

Application Received 1/1/1990

Application Status PERMIT TO OPERATE GRANTED

Application Deemed Complete

Equipment Desc CLAY SIZE REDUCTION; SHIP HOLD HATCH COVER

Permit Number 03008R

Permit Status ACTIVE

[View Permit Image](#)

Engineer Information

Engineer Assigned GENERIC ENGINEER

Engineer Phone () -

Team Assigned

RIVERSIDE COUNTY AIR POLLUTION CONTROL DISTRICT

PERMIT No. 03008

Pursuant to the authority granted under the Rules and Regulations for the Air Pollution Control District, the

Corona Clay Company

NAME OF CORPORATION, COMPANY, INDIVIDUAL OR GOVERNMENTAL AGENCY

located at Behind 23200 Temescal Canyon Road, Corona, California

ADDRESS

is hereby granted a permit to use or operate the following article, machine, equipment or contrivance:

Clay Crushing, Screening and Handling System consisting of: Receiving Hopper with 2hp Reciprocating Feed to a 40hp Ken-Ene Jaw Crusher; 1hp Conveyor to Allis Chalmers Portabl Crushing Plant with 20hp Screen, 125hp Cone Crusher, Three 1hp Conveyors One 5hp Conveyo One 10hp Conveyor; 1hp Conveyor with 1hp Traverse Drive to Storage.

Condition: Materials handled must contain sufficient natural or added moisture to prevent excessive dusting.

This Permit does not authorize the above permittee to violate any of the Rules and Regulations of the Riverside County Air Pollution Control District or Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California.

APCD 5-71

Chief Deputy

AIR POLLUTION CONTROL OFFICER

Date February 16, 1977