7 de mayo de 2025

Por e-mail
Sr. David Nguyen
Obras Públicas del Condado de Los
Ángeles 900 S. Fremont Avenue
Alhambra, CA 91803
dnguyen@pw.lacounty.gov

Ref.: Vertedero de Chiquita Canyon - Informe de la Condición No. 69 del CUP

Estimado Sr. Nguyen:

La Condición 69 del Permiso de Uso Condicional ("CUP") de Chiquita Canyon, LLC ("Chiquita") requiere que al recibir cuatro Aviso de Violación ("NOVs") relacionados con la calidad del aire en un mismo año calendario, Chiquita debe presentar un informe a Obras Públicas ("PW") del Condado de Los Ángeles dentro de los 30 días después del cuarto NOV, explicando el NOV y los pasos tomados para tratarlo. Chiquita además debe proporcionar este informe dentro de los 30 días desde que recibe cualquier NOV adicional relacionado con el aire dentro del mismo año calendario.

En 2025, el Distrito de Gestión de la Calidad del Aire de la Costa Sur ("South Coast AQMD") emitió NOVs a Chiquita por violaciones de la Regla 402 del South Coast AQMD y del Código de Salud y Seguridad de California en su § 41700, activando la obligación de Chiquita de proporcionar un informe bajo la Condición 69 del CUP.
Chiquita presentó un informe el 28 de febrero de 2025 y el 4 de abril de 2025. Desde que se presentó el informe del 4 de abril, el AQMD de la Costa Sur le presentó a Chiquita nueve NOVs adicionales de la Regla 402 por supuestas violaciones que ocurrieron en abril y mayo de 2025. Estas NOVs se indican en el Adjunto A.[1]

El 1 de abril de 2025, South Coast AQMD emitió a Chiquita la NOV P81017 por presuntas violaciones a la Regla 201 del South Coast AQMD. Este NOV se proporciona en el Adjunto B.

El 1 de abril de 2025, el Departamento de Control de Sustancias Tóxicas DTSC ("DTSC") le emitió a Chiquita una Determinación de Peligro Inminente y Sustancial y una Orden (la "Orden ISE") por violaciones

[1] Los números de las NOV y las fechas de las presuntas violaciones son los siguientes: NOV P64626 (7 de abril de 2025); NOV P68837 (8 de abril de 2025); NOV P80048 (9 de abril de 2025); NOV P65805 (14 de abril de 2025); NOV P66990 (22 de abril de 2025); 23 de abril de 2025 (23 de abril de 2025); NOV P81021 (30 de abril de 2025); NOV P80049 (2 de mayo de 2025) e NOV P67275 (5 de mayo de 2025).

al Código de Salud y Seguridad (“HSC”) de California. Esta orden se proporciona en el sitio web del DTSC: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60003849&enforcement_id=60586884

El 1 de mayo de 2025, el Programa de Gestión de Desechos Sólidos del Departamento de Salud Pública del Condado de Los Ángeles, que actúa como Agencia de Cumplimiento Local ("LEA") le emitió a Chiquita una Orden de Cumplimiento bajo el Código de Regulaciones 27 de California (“CCR”) § 20750. Este Orden de Cumplimiento se proporciona en el Adjunto C.

Como se incluyó en el informe del 4 de abril, el 1 de abril de 2025 Chiquita recibió la NOV P80892 del AQMD de la Costa Sur alegando violaciones de HSC § 42401 y a las Condiciones 3(a), 8, 8(d), 68 y 78 de la Orden de Depuración Estipulada ante el AQMD de la Costa Sur (Caso No. 6177-4) emitida el 6 de septiembre de 2023 y modificada el 17 de enero, el 21 de marzo, el 24 de abril, el 27 de agosto, el 13 de noviembre de 2024 y el 16 de abril de 2025[2] (la "Orden Estipulada"). La NOV se proporciona nuevamente en el Adjunto D.

Como también se incluyó en el informe del 4 de abril, el 1 de abril de 2025 Chiquita recibió un Resumen de Violaciones ("SOV") del DTSC alegando violaciones de 22 CCR § 66262.17(a)(9), 22 CCR § 66262.251 y HSC § 25189.2(b). La SOV se proporciona nuevamente en el Adjunto E.

NOVs de la Regla 402 del South Coast AQMD – Explicación y Acción Correctiva

A continuación, se proporciona un debate sobre las NOVs de la Regla 402 del South Coast AQMD, además de las acciones correctivas tomadas por Chiquita en respuesta a las NOVs.

Explicación

Estas NOVs fueron emitidas después de que un inspector del South Coast AQMD verificó los reclamos sobre los presuntos olores que provenían del Vertedero de Canyon de Chiquita (el "Vertedero"). Las NOVs son sustancialmente las mismas que las NOVs previas emitidas por South Coast AQMD que fueron tratadas en los informes previos de la Condición 69 del CUP de Chiquita. El origen de los olores es el mismo que el descrito en esos informes: un aumento en la producción de biogás y líquidos causados por una reacción anormal que estaba ocurriendo dentro de una parte más antigua de la masa de residuos del Vertedero.

Acción Correctiva

Chiquita proporcionó descripciones detalladas de las acciones correctivas que fueron tomadas para mitigar la reacción y los olores que emanaban del Vertedero en sus informes previos de la Condición 69 del CUP. Mientras que Chiquita no repite en este informe la información proporcionada en los informes previos, continúa tomando todas las acciones indicadas en esos informes. Las acciones correctivas descritas en esta sección incluyen únicamente las nuevas medidas que se están tomando desde la última actualización.

[2] La modificación a la Orden Estipulada del 16 de abril de 2025 todavía no está disponible, pero será publicada en el sitio web de mitigación de olores de Chiquita cuando esté disponible.

Orden Estipulada del AQMD de la Costa Sur: Bajo la Orden Estipulada, Chiquita ha implementado la siguiente medida adicional de mitigación:

- Al 2 de mayo de 2025, Chiquita tiene un total de 151 bombas que operan en pozos de extracción vertical de biogás.

Chiquita presenta a South Coast AQMD las actualizaciones sobre el estado de su cumplimiento de la Orden Estipulada modificada en sus informes mensuales de la Condición 8. Estos informes están publicados en el sitio web de Chiquita. En el sitio web de Chiquita hay más información detallada sobre la implementación y el cumplimiento de Chiquita con la Orden Estipulada modificada.

Orden de Cumplimiento de la LEA: El 6 de junio de 2024, la LEA le emitió a Chiquita una Orden de Cumplimiento, formalizando las medidas de mitigación recomendadas por CalRecycle que habían sido impuestas previamente por la LEA, como también otros requerimientos adicionales. Chiquita ha implementado el siguiente requerimiento adicional de la Orden de Cumplimiento de la LEA:

- El 29 de abril de 2025, Chiquita presentó el informe semanal de problemas con las cubiertas. El informe, el resumen y los mapas están publicados en el sitio web de Mitigación de Olores de Chiquita.

En el sitio web de Chiquita hay más información detallada sobre la implementación de Chiquita de la Orden de Cumplimiento.

Mejora del programa de monitoreo del aire comunitario: Como se describió en informes previos, bajo la dirección del DPH, Chiquita ha mejorado su programa de monitoreo del aire actual. Los datos y los informes se encuentran en el sitio web de Chiquita y el informe más reciente se presentó el 21 de febrero de 2025. Chiquita también hizo una Página Web del Programa de Monitoreo del Aire de la Comunidad del Vertedero de Chiquita Canyon. https://chiquitacanyon.com/reports/community-air-monitoring-program/. La página contiene los datos promedio de 1 hora más recientes sobre ácido sulfhídrico y metano, como también la velocidad y la dirección del viento promedio para el mismo período de tiempo, de doce estaciones de monitoreo del aire de la comunidad.

Estudio de la Calidad del Aire del Vertedero de Chiquita Canyon: Como se describió en informes previos, un consultor externo condujo un estudio de 28 días sobre la calidad del aire, que proporcionó más datos e información sobre la calidad del aire en las comunidades que se encuentran alrededor del Vertedero. Se pueden encontrar datos de este estudio en la página web del Estudio de la Calidad del Aire de Chiquita (https://chiquitalandfillairqualitydata.sensible-edp.com/). Los consultores externos evaluaron estos datos y elaboraron informes sobre potenciales impactos para la salud y de los olores en base los datos tomados y analizados. Estos informes fueron presentados al AQMD de la Costa Sur el 1 de agosto de 2024, como lo requiere la Orden Estipulada, y están publicados en el sitio web de Chiquita. También hay disponible un resumen fácil de leer en el sitio web de Chiquita.

Programa Community Relief de Chiquita: Como se describe en informes previos, Chiquita estableció voluntariamente un Programa Community Relief para ayudar a compensar los costos asociados a la mitigación de los olores y ha contratado a un administrador externo para que administre este programa. A través del programa, los residentes de Val Verde, Live Oak, Hasley Hills, Hillcrest Parkway, Hasley Canyon y Stevenson Ranch pudieron solicitar financiación que podía ser utilizada para ayudar con los

gastos reclamados asociados a la mitigación del olor, que incluyen reubicación temporal, dificultades en el hogar y aumento en las facturas de servicios públicos. Éste no fue un programa de reintegros. Sino que los solicitantes que presentaron solicitudes válidas, geográficamente elegibles, recibieron un pago por mes que podían utilizar de la forma que lo deseen, de forma similar a un estipendio. Los montos de pago variaron entre los solicitantes en base a una variedad de factores, que incluyen la ubicación geográfica y la evaluación de Chiquita sobre el alcance de los impactos del olor en base a datos objetivos sobre el olor.

Las solicitudes de financiación de cada mes debían ser presentadas a fin de mes. Los solicitantes debían volver a certificar sus solicitudes para ser elegibles para recibir financiación en los meses posteriores. Chiquita terminó el Programa Community Relief a fines de febrero de 2025. Se enviaron cheques finales por correo durante la semana del 21 de marzo para los solicitantes elegibles que presentaron solicitudes válidas nuevas en el mes de febrero, para recertificaciones válidas y para quienes han corregido los materiales de sus solicitudes anteriores.

Hay más información disponible sobre este programa en el sitio web del programa (https://www.chiquitalandfillcommunityrelief.com/). La información también está disponible en español.

NOV P81017 del South Coast AQMD – Explicación y Acción Correctiva

El 1 de abril de 2025, South Coast AQMD emitió a Chiquita la NOV P81017 por presuntas violaciones a la Regla 201 del South Coast AQMD. La NOV denuncia específicamente que Chiquita: "[n]o obtuvo un permiso para construir antes de la instalación de un oxidante térmico". La NOV cita al 27 de febrero de 2025 como fecha de la presunta violación.

Chiquita ha resuelto esta NOV con el AQMD de la Costa Sur estipulando una modificación de permiso antes del 30 de mayo de 2025. Al AQMD de la Costa Sur y Chiquita estipularon una nueva condición de la Orden Estipulada, la Condición 98, que requiere que Chiquita presente una solicitud de servicio completa de llevar otra unidad de combustión/control de biogás al sitio, el oxidante térmico, antes del 30 de mayo de 2025. Chiquita además presentará una solicitud de Revisión del Título V completa y presentará la modificación con una solicitud de procesamiento de permiso expeditiva.

Orden de Cumplimiento de la LEA - Explicación y Acción Correctiva

El 1 de mayo de 2025 la LEA le emitió a Chiquita una Orden de Cumplimiento bajo 27 CCR § 20750. La orden de cumplimiento alega específicamente que CCL está "violando 27 CCR § 20750 (Mantenimiento del Sitio), que indica que "[e]l operador deberá implementar un programa de mantenimiento preventivo para monitorear y reparar o corregir inmediatamente las condiciones deterioradas o defectuosas con respecto a los requerimientos de las normas CIWMB y las condiciones establecidas por la EA. Todos los demás aspectos del sitio de disposición se mantendrán en un estado de reparación razonable".

La orden de cumplimiento requiere que CCL: (1) "instale una geomembrana aprobada por la LEA sobre todas las áreas del Sitio que actualmente no están cubiertas por una geomembrana y a la que la zona reactiva se haya ampliado o tenga el potencial de expandirse"; (2) "presentar un plan de trabajo para reubicar el Parque de Tanques de Lixiviados Nro. 9 fuera de la cubierta superior a una zona estable no afectada por los Eventos SET actuales y futuros"; (3)

"implementar medidas para evitar que se propague la reacción hacia la Celda 8-A"; y (4) instalar "[c]inco TMPS nuevas en lugares especificados en el Adjunto A de la carta de CalRecycle del 28 de marzo de 2025".

Chiquita recientemente recibió la orden de cumplimiento y continúa evaluando y comprendiendo las supuestas violaciones. Chiquita proporcionará una explicación detallada y una acción correctiva en el informe de seguimiento.

Orden de Peligro Inminente y Sustancial del DTSC - Explicación y Acción Correctiva

El 1 de abril de 2025 el DTSC le emitió a Chiquita una Orden ISE por violaciones al HSC. La Orden ISE alega que "hubo una liberación y/o hay una amenaza de liberación de una sustancia peligrosa" y que "podría haber un peligro inminente y/o sustancial para la salud o el bienestar público o para el medioambiente por la liberación y/o la amenaza de liberación de las sustancias peligrosas del Sitio". Específicamente la orden requiere que Chiquita implemente tres acciones de remoción: (1) extensión del área cubierta por la geomembrana; (2) reubicación interina del Parque de Tanques Nro. 9 y estabilización de los desechos contenidos; y (3) instalación de un sistema de barreras.

Chiquita respondió a la Orden ISE presentando un aviso de intención de cumplir y defensas con motivos suficientes el 9 de abril de 2025. Chiquita está trabajando mucho con el DTSC para negociar remediaciones técnicas apropiadas para cumplir con los requerimientos de la orden, como corresponda.

Seguimiento del Informe del 4 de abril

NOV P80892 del South Coast AQMD – Explicación y Acción Correctiva

El 1 de abril de 2025, Chiquita recibió una NOV del AQMD de la Costa Sur denunciando violaciones al HSC § 42401 y a las Condiciones 3(a), 8, 8(d), 68 y 78 de la Orden Estipulada. La NOV alega específicamente: (1) “[i]ncumplimiento en completar la instalación de un revestimiento con una capa de polietileno de 60 mils (u otra cubierta de membrana flexible equivalente) para cada tanque de lixiviados y/o parque de tanques dentro de los 120 días de esta Orden"; (2) "[i]ncumplimiento en mantener los tanques bajo presión negativa, como lo demuestren las lecturas diferenciales en diciembre de 2024, enero de 2025 y febrero de 2025"; (3) "[i]ncumplimiento en registrar las lecturas de las presiones utilizando importantes dígitos en la centena en diciembre de 2024, enero de 2025 y febrero de 2025"; (4) "[i]ncumplimiento en registrar todas las lecturas del indicador de presión diferencial en los informes mensuales de diciembre de 2024 y de enero de 2025";
(5) "[i]ncumplimiento en monitorear y registrar la temperatura diaria del biogás en la entrada del Sistema de Tratamiento de Gases del Vertedero para diciembre de 2024"; y (6) "[i]ncumplimiento en informar las temperaturas de biogás en la entrada del Sistema de Tratamiento de Gases del Vertedero en el informe mensual de diciembre de 2024". La NOV cita al 6 de diciembre de 2024 como fecha de las presuntas violaciones.

Chiquita continúa evaluando las supuestas violaciones. Chiquita proporcionará una explicación detallada y una acción correctiva en el informe de seguimiento.

SOV de DTSC – Explicación y Acción Correctiva

El 1 de abril de 2025, Chiquita recibió una SOV del DTSC denunciando violaciones de 22 “CCR” § 66262.17(a)(9), 22 CCR § 66262.251 y del HSC § 25189.2(b). La SOV denuncia específicamente que Chiquita: (1) "no cumplió con los requerimientos de restricción del terreno"; (2) "no minimizó la posibilidad de una liberación de constituyentes de desechos peligrosos al aire, al suelo o a aguas superficiales que puedan amenazar la salud humana o al medioambiente"; y (3) "no minimizó la posibilidad de una liberación de desechos peligrosos o constituyentes de desechos peligrosos al aire, suelo o aguas superficiales, que puedan amenazar la salud humana o el medioambiente".

Chiquita respondió a la SOV del DTSC el 1 de mayo de 2025 que proporciona una explicación de las denuncias y los detalles de las acciones correctivas previstas de Chiquita. La respuesta se indica en el Adjunto F. Debido al tamaño del archivo, la respuesta proporcionada no contiene los adjuntos, que pueden proporcionarse a pedido.

Por favor, comuníquese conmigo si tiene alguna pregunta sobre este informe.

Atentamente,

Steven J Cassulo

Steve Cassulo
Gerente de
Distrito
Chiquita Canyon, LLC

Adjunto:
A - Regla 402 del AQMD de la Costa Sur y Código de Salud y Seguridad de California § 41700
B – NOV P81017 del AQMD de la Costa Sur
C – Orden de Cumplimiento de la LEA
D – NOV P80892 de South Coast AQMD
E– SOV del DTSC
F – Respuesta de Chiquita al SOV del DTSC

cc:
Karlo Manalo, Obras Públicas
Ai-Viet Huynh, Departamento de Planificación Regional
Alex Garcia, Departamento de Planificación Regional
Edgar De La Torre, Departamento de Planificación Regional
Eric Morofuji, Departamento de Salud Pública
Mark Como, Departamento de Salud Pública

ATTACHMENT A

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

NOTICE OF VIOLATION

P 64626

DATE OF VIOLATION		
Month:	Day:	Year:
04	07	25

Facility Name:	Facility ID#:	Sector:
Chiquita Canyon LLC	119219	VB

Location Address:	City:	Zip:
29201 Henry Mayo Dr	Castaic	91384

Mailing Address:	City:	Zip:
29201 Henry Mayo Drive	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☑ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	402			For discharging such quantities of air contaminants to cause injury, nuisance or annoyance to a considerable number of persons.
2	☐ SCAQMD ☑ CH&SC ☐ CCR ☐ CFR	41700			〃 〃
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To:	Phone:	Served By:	Date Notice Served:
Steven Cassulo	(661) 371-9214	Arely Gil Rojas	4/7/25

Title:	Email:	Phone No:	Email:
District Manager	steven.cassulo@~~wm~~ wasteconnections.com	☑ 909-396-2183 ☐ 310-233-	arojas @aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CCR – California Code of Regulations
CH&SC – California Health and Safety Code
CFR – Code of Federal Regulations

Method of Service: ☐ In Person ☑ Certified Mail

ORIGINAL

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

NOTICE OF VIOLATION

P 68837

DATE OF VIOLATION		
Month	Day	Year
04	08	2025

Facility Name	Facility ID#	Sector
CHIQUITA CANYON LANDFILL	119219	VB

Location Address	City	Zip
29201 HENRY MAYO DRIVE	CASTAIC	91384

Mailing Address	City	Zip
29201 HENRY MAYO DRIVE	CASTAIC	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	RULE 402			FOR DISCHARGING SUCH QUANTITIES OF AIR CONTAMINANTS TO CAUSE INJURY, DETRIMENT, NUISANCE OR ANNOYANCE TO A CONSIDERABLE NUMBER OF PERSONS
2	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	CAL H&S CODE 41700			FOR DISCHARGING SUCH QUANTITIES OF AIR CONTAMINANTS TO CAUSE INJURY, DETRIMENT, NUISANCE OR ANNOYANCE TO A CONSIDERABLE NUMBER OF PERSONS
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To	Phone	Served By	Date Notice Served
STEVE CASSULO	661-371-9214	DANIEL DEL ROSARIO	04-08-2025

Title	Email	Phone No	Email
DISTRICT MANAGER	STEVEN.CASSULO@WASTECONNECTIONS.COM	☒ 909-396-2062 ☐ 310-233-	DDELROSARIO @aqmd.gov

*Key to Authority Abbreviations
SCAQMD – South Coast Air Quality Management District
CCR – California Code of Regulations
CH&SC – California Health and Safety Code
CFR – Code of Federal Regulations

Method of Service:
☐ In Person ☒ Certified Mail

ORIGINAL

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

P 80048

NOTICE OF VIOLATION

DATE OF VIOLATION		
Month:	Day:	Year:
04	08	2025

Facility Name:	Facility ID#:	Sector:
Chiquita Canyon Landfill	119219	VB

Location Address:	City:	Zip:
29201 Henry Mayo Dr	Castaic	91384

Mailing Address:	City:	Zip:
29201 Henry Mayo Dr	Castaic	91384

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EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	Rule 402			For discharging such quantities of air contaminants to cause injury, detriment, nuisance, or annoyance to a considerable number of persons
2	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	California H & S Code § 41700			
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To:	Phone:	Served By:	Date Notice Served:
Steve Cassulo	661-371-9214	Daniel Rosas	04/08/2025

Title:	Email:	Phone No:	Email:
District Manager	steveca@wasteconnections.coms	☒ 909-396-2080 ☐ 310-233-	drosas @ aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CH&SC – California Health and Safety Code
CCR – California Code of Regulations
CFR – Code of Federal Regulations

Method of Service: ☐ In Person ☒ Certified Mail

ORIGINAL

electronic mail

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

NOTICE OF VIOLATION

P 65805

DATE OF VIOLATION		
Month:	Day:	Year:
4	14	25

Facility Name:	Facility ID#:	Sector:
Chiquita Canyon Landfill	119219	VB

Location Address:	City:	Zip:
29201 Henry Mayo Dr	Castaic	91384

Mailing Address:	City:	Zip:
29201 Henry Mayo Dr	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	402			Discharging such quantities of Air contaminants to cause injury, detriment nuisance or annoyance to A considerable number of persons
2	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	41700			Discharging such quantities of Air contaminants to cause injury detriment, nuisance or annoyance to A considerable number of persons
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To:	Phone:	Served By:	Date Notice Served:
Steve Cassulo	(661) 371-9214	Aaron Neuhauser	4/14/25

Title:	Email:	Phone No:	Email:
District Manager		☒ 909-396-2513 ☐ 310-233-	aneuhauser @aqmd.gov

Method of Service: ☐ In Person ☒ Certified Mail

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CCR – California Code of Regulations
CH&SC – California Health and Safety Code
CFR – Code of Federal Regulations

ORIGINAL

FONTIS SOLUTIONS (949) 754-9000

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

P 66990

NOTICE OF VIOLATION

DATE OF VIOLATION		
Month:	Day:	Year:
04	22	2025

Facility Name:	Facility ID#:	Sector:
Chiquita Canyon Landfill	119219	VB

Location Address:	City:	Zip:
29201 Henry Mayo Drive	Castaic	91384

Mailing Address:	City:	Zip:
29201 Henry Mayo Drive	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	402			For discharging such quantities of air contaminants to cause injury, detriment, nuisance, or annoyance to a considerable number of persons.
2	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	41700			For discharging such quantities of air contaminants to cause injury, detriment, nuisance, or annoyance to a considerable number of persons.
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To:	Phone:	Served By:	Date Notice Served:
Steve Cassulo	(661) 371-9214	Karen Woullard	04/22/2025

Title:	Email:	Phone No:	Email:
District Manager	Steven.Cassulo@WasteConnections.com	☒ 909-396-2285 ☐ 310-233-	KWoullard @aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CH&SC – California Health and Safety Code
CCR – California Code of Regulations
CFR – Code of Federal Regulations

Method of Service:
☐ In Person ☒ Certified Mail

ORIGINAL

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

P 81020

NOTICE OF VIOLATION

DATE OF VIOLATION: Month: 4 | Day: 23 | Year: 25

Facility Name	Facility ID#	Sector
Chiquita Canyon Landfill	119219	VB

Location Address	City	Zip
29201 Henry Mayo Dr.	Castaic	91384

Mailing Address	City	Zip
29201 Henry Mayo Dr.	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

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DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
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2	☐ SCAQMD ☑ CH&SC ☐ CCR ☐ CFR	41700			
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To	Phone	Served By	Date Notice Served
Steve Cassulo	661-371-9214	Gerardo Vergara	4/23/2025

Title	Email	Phone No	Email
District Manager	steven.cassulo@wasterecycling.com	☑ 909-396- ☐ 310-233- 2179	gvergara @ aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CH&SC – California Health and Safety Code
CCR – California Code of Regulations
CFR – Code of Federal Regulations

Method of Service: ☑ In Person ☐ Certified Mail

VIOLATOR'S COPY

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

NOTICE OF VIOLATION

P 81021

DATE OF VIOLATION		
Month	Day	Year
4	30	2025

Facility Name	Facility ID#	Sector
Chiquita Canyon Landfill	119219	VB

Location Address	City	Zip
29201 Henry Mayo Dr.	Castaic	91384

Mailing Address	City	Zip
29201 Henry Mayo Dr.	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

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DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☑ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	402			For discharging such quantities of air contaminants to cause injury, detriment, nuisance or annoyance to a considerable number of persons.
2	☐ SCAQMD ☑ CH&SC ☐ CCR ☐ CFR	41700			
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To:	Phone:	Served By:	Date Notice Served:
Steve Cassulo	661-371-9214	Gerardo Vergara	4/30/2025

Title:	Email:	Phone No:	Email:
District Manager	steven.cassulo@wasteconnections.com	☑ 909-396- ☐ 310-233- 2179	gvergara @ aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CCR – California Code of Regulations
CH&SC – California Health and Safety Code
CFR – Code of Federal Regulations

Method of Service: ☑ In Person ☐ Certified Mail

VIOLATOR'S COPY

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

P 80049

NOTICE OF VIOLATION

DATE OF VIOLATION: Month: 05 Day: 02 Year: 2025

Facility Name	Facility ID#	Sector
Chiquita Canyon Landfill	119219	VB

Location Address	City	Zip
29201 Henry Mayo Dr	Castaic	91384

Mailing Address	City	Zip
29201 Henry Mayo Dr	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

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DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	Rule 402			For discharging such quantities of air contaminants to cause injury, detriment, nuisance, or annoyance to considerable number of persons
2	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	California H&S Code Sec 41700			
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To	Phone	Served By	Date Notice Served
Steve Cassulo	661-371-9214	Daniel Rosas	05/02/2025

Title	Email	Phone No	Email
District Manager	steveca@wasteconnections.com	☒ 909-396-2080 ☐ 310-233-	drosas @ aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CH&SC – California Health and Safety Code
CCR – California Code of Regulations
CFR – Code of Federal Regulations

Method of Service: ☐ In Person ☒ Certified Mail & email

ORIGINAL

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

P 67275

NOTICE OF VIOLATION

DATE OF VIOLATION		
Month:	Day:	Year:
5	5	2025

Facility Name:	Facility ID#:	Sector:
Chiquita Canyon Landfill	119219	VB

Location Address:	City:	Zip:
29201 Henry Mayo Drive	Castaic	91384

Mailing Address:	City:	Zip:
29201 Henry Mayo Drive	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

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DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☑ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	Rule 402			For discharging such quantities of air contaminants to cause injury, detriment, nuisance, or annoyance to a considerable number of persons.
2	☐ SCAQMD ☑ CH&SC ☐ CCR ☐ CFR	California Health & Safety Code 41700			For discharging such quantities of air contaminants to cause injury, detriment, nuisance, or annoyance to a considerable number of persons.
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To:	Phone:	Served By:	Date Notice Served:
Steve Cassulo	661. 371. 9214	Alemayehu Solomon	5-5-2025

Title:	Email:	Phone No:	Email:
District Manager	Steve.ca@wasteconnections.com	☑ 909-396-3256 ☐ 310-233-	asolomon @ aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CH&SC – California Health and Safety Code
CCR – California Code of Regulations
CFR – Code of Federal Regulations

Method of Service: Email &
☐ In Person ☑ Certified Mail

ORIGINAL

ATTACHMENT B

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

P81017

NOTICE OF VIOLATION

DATE OF VIOLATION		
Month:	Day:	Year:
2	27	25

Facility Name:	Facility ID#:	Sector:
Chiquita Canyon Landfill	119219	VB

Location Address:	City:	Zip:
29201 Henry Mayo Dr.	Castaic	91384

Mailing Address:	City:	Zip:
29201 Henry Mayo Dr.	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.
EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	201			Failed to obtain a permit to construct prior to the installation of a thermal oxidizer
2	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				
4	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR				
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR				

Served To:	Phone:	Served By:	Date Notice Served:
Steve Cassulo	661-371-9214	Gerardo Vergara	4/1/2025

Title:	Email:	Phone No:	Email:
District Manager	steven.cassulo@wasteconnections.com	☒ 909-396-2179	gvergara@aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CH&SC – California Health and Safety Code
CCR – California Code of Regulations
CFR – Code of Federal Regulations

Method of Service:
☐ In Person ☒ Certified Mail ☒ Electronic Mail

What is a Notice of Violation?

A Notice of Violation is issued by an SCAQMD Air Quality Inspector to inform a business that a failure to comply with one or more applicable federal, state, and/or local (SCAQMD) air pollution rules and regulations or legal requirements is being alleged.

What happens when I receive a Notice of Violation?

If you are operating in violation of one or more applicable federal, state, and/or local (SCAQMD) air pollution rules and regulations or legal requirements, each day or part of a day that you operate in violation is considered a separate violation even if only one Notice of Violation has been issued. Continuing to operate in violation may subject you to substantial civil or criminal penalties. **It is in your best interest to resolve any compliance problem immediately before you resume operation.**

What if I need to continue to operate the equipment named in the Notice of Violation?

If continued operation of equipment cited in the Notice of Violation is necessary, you may be able to obtain a variance from SCAQMD's Hearing Board. A ***variance*** is an administrative order that allows a company to continue operating without penalties while it takes appropriate steps to meet air pollution control requirements. Proof of specific legal circumstances must be provided before a variance can be granted. Timeliness in seeking such relief will be considered by the Hearing Board. Additional information concerning variances can be found in California Health & Safety Code §§ 42350-42359.5 and at ***http://www.aqmd.gov/home/about/hearing-board***.

During a hearing for a variance, you may be represented either by yourself or by your attorney or consultant. You will have the opportunity to present evidence and testimony, and to cross-examine any SCAQMD witness.

If you fail to comply with any order of the Hearing Board, you may be subject to additional civil or criminal penalties set forth in California Health & Safety Code §§ 42400 *et seq.* and 42402 *et seq.*

How are Notices of Violation resolved?

The SCAQMD General Counsel's office reviews each alleged violation and, based on the facts, determines how best to resolve the allegation. Options available to the General Counsel's office include:

- **Minor Source Penalty Assessment Program**
  Certain Notices of Violation may be eligible for resolution through SCAQMD's Minor Source Penalty Assessment Program if they are issued to a minor source or for violations other than emitting air toxics or creating a public nuisance involving injury or property damage.

  If your case is handled by this program, you will receive a letter or phone call from an investigator in the SCAQMD General Counsel's office offering to settle your violation. Settlement terms usually call for a penalty payment and written proof of current compliance. The investigator's name and telephone number are included in the initial settlement letter in the event you would like to discuss the case.

  Be prepared to describe any facts about the violation that you believe SCAQMD should know in considering your case. Sharing your knowledge of the facts, possible causes for the violation and plans to avoid future violations will help the investigator arrive at an appropriate disposition. **Be sure to respond by the date indicated in the letter to avoid further legal action.**

  If the Minor Source Penalty Assessment Program fails to result in a settlement, your Notice of Violation may be referred to an SCAQMD attorney and handled under the procedures for Civil Prosecution or resolved through a Small Claims Court.

- **Civil Prosecution**
  If your case is handled as a civil matter, it will be reviewed by an attorney from the SCAQMD General Counsel's office, who will typically make first contact with you through a letter that asks for information about your case. If the allegations in the Notice of Violation cannot be informally resolved, the SCAQMD is authorized to file a civil lawsuit in court to recover civil penalties. In cases involving serious harm or danger, however, SCAQMD may immediately commence a legal action for civil penalties and a court-ordered injunction. A **mandatory injunction** is a court order compelling a person and/or company to take specific action. A **prohibitory injunction** is a court order compelling a person and/or company to refrain from taking a specific action. Injunctions, which may even lead to shutting down a business, may be sought by SCAQMD to prevent continuing or serious violations or damages from occurring.

- **Criminal Prosecution**
  If SCAQMD determines that criminal prosecution is appropriate, the case will be referred to the appropriate state or federal law enforcement agency. That agency will determine if criminal prosecution is warranted.

Civil and Criminal Penalties

Penalties are determined by California Health & Safety Code §§ 42400 *et seq.* and 42402 *et seq.*

Available Resources

You can obtain SCAQMD Rules, permit application forms, and detailed information about SCAQMD and the Hearing Board using the resources provided below:

Contact Numbers		Useful Links	
General Information:			
SCAQMD Headquarters General Number	(909) 396-2218	About SCAQMD	http://www.aqmd.gov/home/about
		Enforcement Authority	http://www.aqmd.gov/home/about/authority/enforcement
General Counsel's Office	(909) 396-3400	Compliance Notices	http://www.aqmd.gov/home/regulations/compliance/compliance-notices
		SCAQMD Rules	http://www.aqmd.gov/home/regulations/rules
Obtaining Permit or Billing Information:			
Small Business Assistance	(800) 388-2121	Getting Permits	http://www.aqmd.gov/home/permits
Permit Information	(909) 396-2468	Permit Forms	http://www.aqmd.gov/home/permits/permit-application-forms
Billing Services	(866) 888-8838 (909) 396-2900	Permitting Fees	http://www.aqmd.gov/home/permits/fees
Variances:			
Clerk of the Hearing Board	(909) 396-2500	The Hearing Board	http://www.aqmd.gov/home/about/hearing-board

ATTACHMENT C

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
SOLID WASTE MANAGEMENT PROGRAM
ACTING AS THE LOCAL ENFORCEMENT AGENCY (LEA)
5050 COMMERCE DRIVE, BALDWIN PARK, CA 91706

IN THE MATTER OF:

CHIQUITA CANYON SANITARY LANDFILL
29201 HENRY MAYO DRIVE
CASTAIC, CA 91384
APN: 3271-002-011, 3271-002-013, 3271-002-019, 3271-002-036, 3271-002-039, 3271-005-034
SWIS# 19-AA-0052

OWNER/OPERATOR
CHIQUITA CANYON, LLC (RESPONDENT)
29201 HENRY MAYO DRIVE
CASTAIC, CA 91384

BY CERTIFIED MAIL AND ELECTRONIC COPY

CERTIFIED MAIL: 91 7199 9991 7037 9753 6201

COMPLIANCE ORDER PERTAINING TO 27 CALIFORNIA CODE OF REGULATIONS (CCR) § 20750

PUBLIC RESOURCES CODE SECTIONS 43209, 44106, 45000, 45005, 45011, 45014, 45017, 45023; TITLE 27 OF THE CALIFORNIA CODE OF REGULATIONS (27 CCR), SECTION 20750; AND TITLE 14 OF THE CALIFORNIA CODE OF REGULATIONS (14 CCR), SECTIONS 18304 AND 18304.1, 18304.3, 18365

DATE: May 1, 2025

TO: CHIQUITA CANYON, LLC

YOU ARE HEREBY ORDERED TO:
TAKE ALL ACTIONS AND ABIDE BY ALL OTHER ORDERS CONTAINED HEREIN AT THE CHIQUITA CANYON SANITARY LANDFILL EFFECTIVE IMMEDIATELY.

1.0 PLEASE TAKE NOTICE:

1.1 The Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), is authorized by Division 30 of the Public Resources Code (PRC), §§ 43209 and 45000, and Title 14 of the California Code of

Regulations (14 CCR), to enforce applicable solid waste regulations within the County of Los Angeles; and,

1.2 Division 30 Part 5 of the PRC and 14 CCR §§ 18304 and 18304.1 authorize the LEA to issue enforcement orders for violations of the PRC and regulations adopted pursuant to Division 30 of the PRC; and

1.3 Chiquita Canyon Sanitary Landfill (Site) is a permitted sanitary landfill located on Assessor's Parcel Numbers (APNs) 3271-002-011, -013, -019, -036, -039, and 3271-005-034 with an address of 29201 Henry Mayo Drive, Castaic, California, 91384, in the County of Los Angeles, and identified by Solid Waste Information System (SWIS) No. 19-AA-0052; and

1.4 Respondent, Chiquita Canyon, LLC, (CCL), is the operator and Responsible Party (RP) for noncompliance with state minimum standards. This Compliance Order is limited to CCL's violation of Title 27 of the California Code of Regulations (27 CCR) § 20750 (Site Maintenance), as described in the paragraphs below.[1]

2.0 STATEMENT OF FACTS PERTAINING TO 27 CCR SECTION 20750:

2.1 Since August 10, 2023, the LEA has sought technical assistance from California Department of Resources, Recycling and Recovery (CalRecycle) regarding mitigation strategies for multiple issues identified at the Site by the LEA and other regulatory agencies. These issues include elevated well temperatures, increased landfill gas (LFG) emissions (odor), and unusual landfill settlement.[2] A letter dated October 16, 2023 from CalRecycle (October 16, 2023 CalRecycle Letter) to the LEA provided CalRecycle' s review of 18 months of Site records. The

[1] In additional to 27 CCR § 20750 (Site Maintenance), CCL is also presently in violation of 27 CCR § 20921 (Gas Monitoring and Control). This violation was included in the LEA's June 6, 2024 Compliance Order. Any further LEA enforcement concerning violation of 27 CCR § 20921 will be addressed separately.

[2] CalRecycle provides comments to the LEA as assistance to support the program carrying out its responsibilities on permitted disposal sites. The final determination as to the comments provided to the responsible party is within the sole purview of the LEA, acting within the parameters of its discretion, in accordance with its vested authority under its certification as defined in 14 CCR, Division 7, 27 CCR, Division 2, Subdivision 1 (Section 20005 et seq.), and Division 30 of the PRC.

review determined that the Site sustained conditions over the prior 18 months that included, but were not limited to:

- Cover integrity issues;
- Increased temperatures and pressures in the landfill gas (LFG) control systems and waste mass;
- Unusual landfill settlement;
- A heating/smoldering event that is expanding in size and intensity.

2.2 Beginning with a letter dated October 17, 2023, issued to CCL, the LEA requested CCL undertake various mitigation actions at the Site to reduce odors and better define the reaction, many of which according to CCL, were included in the South Coast Air Quality Management District (SCAQMD) Stipulated Order of Abatement. On November 14, 2023, CalRecycle provided a letter (November 14, 2023 CalRecycle Letter) to the LEA based on the November 2, 2023 joint site visit with the LEA, SCAQMD, Los Angeles Region Water Quality Control Board (RWQCB), Department of Toxic Substances Control Board (DTSC), and the United States Environmental Protection Agency (USEPA). The November 14, 2023 CalRecycle Letter provided further recommendations and concluded that the current immediate cover should not be viewed as adequate to minimize odors.

2.3 On November 21, 2023 the LEA issued a more detailed letter, requiring CCL to implement specific mitigation measures and submit the necessary plans, data, and reports by outlined deadlines.

2.4 On May 15, 2024, pursuant to 14 CCR § 18364, an Inclusion Letter was sent by CalRecycle, notifying CCL that CCL was placed on the "Inventory of Facilities Violating State Minimum Standards" (Inventory) maintained by CalRecycle pursuant to PRC § 44104. This was due to CCL's violations of 27 CCR §§ 20921 (Gas Monitoring and Control) and 20750 (Site Maintenance) for three or more consecutive months as documented by the LEA inspection reports, and CCL's failure to correct the violations within 90 days of receiving a notification letter from CalRecycle dated February 8, 2024.

2.5 As required by 14 CCR § 18365(a), within 15 business days from the date of the Inclusion Letter, the LEA issued a compliance schedule to CCL, in the form of a Compliance Order dated June 6, 2024 (June 6, 2024 Order), to ensure that diligent progress is made by the operator to bring the facility into compliance pursuant to PRC § 44106. (14 CCR §§ 18304.3 and 18361(a).) The history and statement of facts leading up to the LEA's issuance of the June 6, 2024 Order is set forth in detail in the June 6, 2024 Order, attached hereto, and incorporated herein by reference.

2.6 On July 8, 2024, CCL submitted the Soil Reaction Break/Barrier Plan (SRBBP) to the LEA for review to comply with Milestone 1-A1 of the June 6, 2024 Order. On September 24, 2024, the LEA issued comments, based on CalRecycle's technical review of the SRBBP, directing CCL to submit a revised plan by October 24, 2024. The LEA and CalRecycle met with CCL on October 28, 2024 and November 8, 2024, and discussed injection of inert material to contain the Subsurface Elevated Temperature (SET) Event at the Site.[3] CCL requested, and was granted, an extension to submit the revised SRBBP by November 26, 2024. The LEA requested CalRecycle's technical expertise to assist in reviewing the revised SRBBP received by the LEA on November 26, 2024.

2.7 On December 24, 2024, the LEA requested additional information from CCL for CalRecycle to complete its technical review of the revised SRBBP. On January 24, 2025, CCL submitted a portion of the requested information. The LEA, in consultation with CalRecycle, reviewed the SRBBP and CCL's additional information.

2.8 Based on CalRecycle's technical review, most SET Events are typically caused by excessive oxygen entering the waste mass near or on a side slope. SET Events can start locally at a gas extraction well, area of cap erosion, or other features that allow oxygen to enter the waste mass. If not adequately addressed, the SET Event may become a smolder and spread to the entire landfill facility if it is not isolated and contained. (March 28, 2025 CalRecycle Letter, p. 3.) SET Events can (1) impact the integrity of bottom, top deck, and side slope geosynthetic liner systems; (2) impact the efficacy of gas and leachate control infrastructure made from high-density

[3] A discussion of the definition and causes of SET events is found at p. 3-5 of the attached CalRecycle letter dated March 28, 2025.

polyethylene (HDPE) and/or polyvinyl chloride (PVC) materials (e.g., pipes, lines, and gas wells, due to softening and/or melting), (3) impact the quality of gas composition for renewable energy and operation of flare systems, (4) change in chemical profile of leachate from non- hazardous waste liquid to hazardous waste liquid due to increased benzene concentration, (5) slope instability, and (6) cause excessive and/or rapid settlement of the landfill surface. (March 28, 2025 CalRecycle Letter, p. 3-4.)

2.9 LEA's June 6, 2024 Order and subsequent directives required CCL to install a 30-mil geosynthetic cover over 40 acres and temperature monitoring probes (TMPs). In addition, CCL was required to provide critical data such as carbon monoxide (CO) and hydrogen (H2) readings for LFG wells, temperature readings from TMPs, color-coded temperature contour maps showing the maximum temperature recorded during the reporting period, and reports for soil and geosynthetic cover documenting settlement and stability issues. Contrary to CCL's stated belief that the reaction has not expanded, new temperature data from the recently installed TMPs, which were approved per LEA's letter issued on September 24, 2024 (September 24 2024 LEA Letter), indicates that the reaction is expanding. This new TMP data, along with documented conditions and other critical data provided by CCL in response to LEA's June 6, 2024 Order, was analyzed in the attached Technical Memorandum from Dr. Timothy Stark dated February 26, 2025 (February 26, 2025 Stark Memo), and the March 28, 2025 CalRecycle Letter. The following conclusions were made:

- The submitted barrier plan will not contain or control the reaction. There is no proposed barrier to prevent the reaction from consuming the entire facility.
- While the removal of leachate and pressurized gas is critical, this is not a satisfactory containment method.
- Independent SET Events are developing due to the current gas collection and control system (GCCS) operations.
- Given the extent of the SET Event, a 40 to 60-mil thick tan or green HDPE-EVOH textured geomembrane underlain by a minimum 6 ounce per square yard (oz/sy) nonwoven geotextile needs to be

installed over the approximately 100 acres outside the current geomembrane cover. It must be welded to the existing 30-mil thick white HDPE geomembrane or placed in a suitable anchor trench.

- Leachate Tank Farm nine must be relocated off the top deck to an area not impacted by the SET Event now or in the future because CCL is undergoing settlement under the tanks.
- Expansion of the SET Event into Cell 8A must be prevented by connecting the previously constructed soil barrier to the west and eastern edges of Cell 8A. This soil barrier should provide a thermal block and remove any waste connection from Cells 6 to 8A. It is critical to prevent this expansion to 8A for two primary reasons: 1) If a soil buttress must be constructed to stabilize the slope from the SET Event, this is the only area large enough to build a buttress, and 2) It allows the landfill to maintain a disposal area for self-generating waste in Cell 8A.
- Additional Temperature Monitoring Probes (TMPs) must be installed.

2.10 On April 1, 2025, the LEA issued a letter rejecting the revised SRBBP because it did not propose a physical barrier, as directed in the June 6, 2024 Compliance Order, but instead relied on gas and leachate removal for containment and did not include thermodynamic analysis to demonstrate the effectiveness of these measures. In addition, temperature trends in multiple TMPs indicate ongoing reaction activity.

2.11 Given the evidence of ongoing reaction activity, the new temperature data provided by CCL on February 20, 2025, and no thermodynamic analysis, the LEA does not believe that gas and leachate removal alone is appropriate to contain the reaction. Furthermore, CalRecycle is not aware of any published studies supporting gas and leachate removal as a standalone containment strategy for an SET Event. CCL's evaluation also confirmed that no internal barrier exists to prevent the reaction from spreading throughout the facility. For further discussion of these findings, refer to the attached March 28, 2025 CalRecycle Letter, and the February 26, 2025 Stark Memo.

3.0 VIOLATIONS:

3.1 CCL is in violation of 27 CCR § 20750 (Site Maintenance), which provides, "The operator shall implement a preventative maintenance program to monitor and promptly repair or correct deteriorated or defective conditions with respect to requirements of the CIWMB standards, and conditions established by the EA. All other aspects of the disposal site shall be kept in a state of reasonable repair." This violation was addressed in the LEA's June 6, 2024 Compliance Order, which ordered CCL to implement multiple milestones with regard to 27 CCR § 20750. This Compliance Order supersedes the Milestone 1A-1 of the June 6, 2024 Compliance Order as it pertains to 27 CCR § 20750.[4]

4.0 ORDER:

Pursuant to PRC §§ 43209, 44106, 45000, 45005, 45011, 27 CCR § 20750, and 14 CCR §§ 18304, 18304.1, 18304.3(b), and 18365, to address the ongoing SET Event, abate the violation of 27 CCR § 20750 and minimize further impacts, CCL is hereby ordered to implement the mitigation measures listed below. CCL must demonstrate that the reaction is contained and under control (not expanding). CCL must implement and maintain best management practices for the mitigation measures, including cover maintenance, TMPs operation and maintenance, and the protection of critical infrastructure.

4.1 Extend Covered Area: Install an LEA approved geomembrane cover over all areas of the Site that are not currently covered by a geomembrane and to which the reaction area has expanded or has the potential to expand. The LEA-approved cover shall demonstrate effectiveness equal to or greater than that of a 40- to 60-mil thick tan or green HDPE-EVOH textured geomembrane underlain by a minimum 6 oz/sy nonwoven

[4] As noted in footnote 1 above, in addition to 27 CCR § 20750 (Site Maintenance), CCL is also presently in violation of 27 CCR § 20921 (Gas Monitoring and Control). This violation was included in the LEA's June 6, 2024 Compliance Order. Any further LEA enforcement concerning violation of 27 CCR § 20921 will be addressed separately.

geotextile, welded to the existing 30-mil thick white HDPE geomembrane or placed in a suitable anchor trench.

A construction and quality assurance/quality control (QA/QC) plan with completion schedule must be submitted to the LEA for approval by **June 2, 2025**. Installation of the geomembrane cover shall be completed pursuant to the completion schedule in the LEA-approved workplan.

Provide **Weekly Updates** throughout the installation of the geomembrane cover on Fridays beginning the week after installation commences. These updates must include a map showing the required geomembrane coverage area and the approximate extent of the installed geomembrane cover, notes on any delays (such as those due to rain events or other special occurrences), delineation of any areas showing settlement, and any wells showing signs of reaction.

(Note: Weekly reporting may be reduced in frequency or discontinued only after the required geomembrane cover is installed and with LEA written approval.)

4.2 Relocate Leachate Tank Farm 9: CCL must submit a workplan to relocate Leachate Tank Farm 9 off the top deck to a stable area unaffected by current and future SET Events. A workplan with the proposed relocation and completion schedule must be submitted to the LEA for approval by **June 2, 2025**. Relocation of the Leachate Tank Farm 9 shall be completed pursuant to the completion schedule in the LEA-approved workplan.

4.3 Prevent Expansion of SET Event into Cell 8A: CCL must implement measures to prevent the reaction from spreading into Cell 8A. The previously constructed soil barrier must be verified or extended to connect the western and eastern edges of Cell 8A. If extended, these measures shall include, but are not limited to, the installation of a vertical barrier of inert materials. This barrier should serve as a thermal block and eliminate any

waste connection between Cells 6 and 8A. An as-built for the soil barrier or a workplan to extend the barrier must be submitted to the LEA for approval by **July 15, 2025**. Construction of the vertical barrier of inert materials shall be completed pursuant to the completion schedule in the LEA-approved workplan.

4.4 Install Additional TMPs: Five new TMPs must be installed at locations specified in Attachment A of the March 28, 2025 CalRecycle Letter. TMPs must be installed at the following depths: 15 feet, 30 feet, 45 feet, and 75 feet. Beyond 75 feet, additional TMP depths must be determined using the equation [(Max Boring Depth – 75 feet)/4] rounded up to the nearest tenth or fifth as described in the March 19, 2025 LEA Letter. Provide a final completion report that includes a map by **August 4, 2025**.

5.0 APPLICABLE TO ALL DIRECTIVES:

5.1 CCL must obtain all required and necessary Federal, State, and local permits prior to commencement of any work at the site. CCL needs to continue to work with the appropriate state and local agencies to resolve the odor nuisance and other serious conditions at the Site by implementing their required mitigation measures. [5]

5.2 Ensure plans and reports provided to the LEA, including but not limited to those related to the installation of a geomembrane cover, a vertical barrier of inert materials, and TMPs, comply with the Professional Engineers Act, California Business and Professions Code (B&P) §§ 6700 – 6799. These submittals must include the name and license number of the engineer in responsible charge (B&P § 6735) and must be signed and stamped as required by 16 CCR § 411.1. Engineering decisions that could affect public health and safety must be made by an

[5] California's environmental laws are enforced by State and Local agencies, each responsible for enforcing the laws governing a specific media, such as air, water, hazardous waste, solid waste, and pesticide laws. Therefore, regulations governing solid waste disposal in the State of California enforced by the LEA do not address air or water quality aspects of the environment that are regulated by other State or Local agencies (27 CCR § 20005(b); PRC § 43021.)

engineer in responsible charge of the work that has sufficient knowledge of the project to draft or review and approve the submittals. (16 CCR § 404.1.)[6]

5.3 Notwithstanding anything to the contrary herein, if any of the above directives and compliance deadlines cannot be met in good faith, CCL may submit a written extension or modification request to the LEA setting forth good cause justification.

6.0 NOTICE OF FURTHER PENALTIES AND ENFORCEMENT THAT MAY RESULT FROM FAILURE TO COMPLY WITH THE LEA'S ORDER:

6.1 The LEA may impose administrative civil penalties not to exceed five thousand dollars ($5,000) for each violation, for each day CCL is in violation of this Order. (PRC §§ 45010.1 and 45011.)

6.2 The LEA may suspend or revoke the solid waste facility permit if the facility does not meet the requirements contained in the compliance schedule issued by the LEA until the violation(s) of state minimum standards which caused the facility to be included in the Inventory are remedied. (PRC §§ 44305 and 44306, and 14 CCR §§ 18307 and 18368(b).)

6.3 The LEA may file a petition in the Superior Court for an injunction to enforce compliance with this Order. (PRC §45014; 14 CCR § 18304.1.)

6.4 Upon failure to comply with the Order, the LEA may file a petition in the Superior Court to impose upon CCL civil penalties of not more than ten thousand dollars ($10,000) for each day CCL intentionally or negligently violates this Order. (PRC §§ 45023 and 45024.)

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[6] Per the Professional Engineers Act, California Business & Professions Code (B&P) §§ 6700 – 6799, an engineering report shall be prepared by, or under the responsible charge of a licensed civil engineer and shall include his or her name and license number. (B&P § 6735.) It must also be signed and stamped as required. (16 CCR § 411.1.) Engineering decisions that could create a hazard to life, health, property or public welfare must be made by the engineer in responsible charge. (16 CCR § 404.1.) While not directly related to this Order, the LEA notes that recent TMP reports, for example, the March 27, 2025 TMP reports for February 13, 2025 to March 26, 2025, include engineering opinions from CCL and SCS Engineers asserting that "This data further supports the previous conclusions of cooler temperatures near the liner and the liner's integrity being uncompromised by elevated temperatures." (See attached.) CCL may choose to not provide such information on the TMP reports, but if CCL and SCS Engineers continue to provide engineering opinions, they shall provide the name and license number of the engineer responsible for said opinion on the report.

6.5 The LEA and/or CalRecycle shall not be liable for injuries or damages to persons or property resulting from acts or omissions by CCL or related parties in carrying out activities pursuant to this order, nor shall the LEA and/or CalRecycle be held as a party to any contract entered into by CCL or its agent(s) in carrying out activities pursuant to this Order.

6.6 Nothing in this Order shall constitute or be construed as satisfaction or release from liability for any conditions or claims arising as a result of past, current, or future operations. Notwithstanding compliance with the terms of this Order, CCL may be required to take further actions as necessary to protect public health and safety or the environment.

6.7 This Order does not relieve CCL from complying with all other local, state, and federal requirements or prevent the LEA and/or CalRecycle from taking any and all other actions allowed by law.

6.8 This Order is supported by the accompanying declaration by Karen Gork.

6.9 This Order may only be amended in writing by an appropriate representative of the LEA.

6.10 The LEA reserves the right to modify the directives outlined in this Order as new data becomes available.

7.0 RIGHT TO APPEAL

7.1 CCL has the right to appeal this Order (PRC §§ 44307 and 44310) by submitting a written request for a hearing, together with a statement of issues on which appeal is based, within 15 days. Request for Hearing is provided with this Order. The appeal must be sent via U.S. Mail to Los Angeles County Public Health, Solid Waste Management Program/Local Enforcement Agency (LEA), 5050 Commerce Drive, Baldwin Park, Ca 91706, Attention: Karen Gork or via electronic mail to kgork@ph.lacounty.gov.

7.2 An appeal does not stay the effect of any provision of this Order. However, you may petition the Director of CalRecycle, in writing, to stay the effect of this Order, or portion thereof, pending the completion of administrative appeals. (PRC § 45017.) A petition submitted must be in writing and shall state the extraordinary circumstances that justify the stay. The petition shall also state the grounds, if any, on which a finding may be made that the immediate effect of the

order or determination will preclude or interfere with the provision of an essential public service so that the public health and safety or the environment will be adversely affected.

8.0 CERTIFICATION

8.1 This Compliance Order Pertaining to 27 CCR § 20750 is issued as of the date set forth below.

Signed: Liza Frias Date: May 1, 2025

Liza Frias, Director, Environmental Health
Los Angeles County LEA

Attachments:

Declaration
October 16, 2023 CalRecycle Letter
October 17, 2023 LEA Letter
November 14, 2023 CalRecycle Letter
November 21, 2023 LEA Letter
May 15, 2024 CalRecycle Inclusion Letter
February 8, 2024 CalRecycle Notification Letter
June 6, 2024 LEA Compliance Order without attachments
September 24, 2024 LEA Letter
Technical Memorandum from Dr. Timothy Stark dated February 26, 2025
April 1, 2025 LEA Letter
CalRecycle Letter dated March 28, 2025
March 19, 2025 LEA Letter
March 27, 2025 email from Steve Cassulo, Waste Connections District Manager, to Ken Habaradas at LEA re: Chiquita Canyon Landfill – TMP Temperature Submittal
Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for February 13, 2025 to March 26, 2025, SCS Engineers, dated March 27, 2025
Request for Hearing Form

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
SOLID WASTE MANAGEMENT PROGRAM
ACTING AS THE LOCAL ENFORCEMENT AGENCY (LEA)
5050 COMMERCE DRIVE, BALDWIN PARK, CA 91706

Declaration

I, Karen Gork, declare under penalty of perjury under the laws of the State of California that the following information is true and correct:

1. I am duly employed as a Chief Environmental Health Specialist (CEHS) in the Solid Waste Management Program for the Environmental Health Division of the Los Angeles County Department of Public Health. In this capacity, I act as an agent of the Local Enforcement Agency (LEA).

2. I am registered with the State of California as a Registered Environmental Health Specialist (REHS).

3. The information and allegations in the accompanying Notice and Order are known to me to be correct based on information and belief. This was obtained through review of facility records, including correspondence, inspection reports, plans, and any relevant guidance from CalRecycle.

Executed at: 5050 Commerce Drive, Baldwin Park, California 91706 on May 1, 2025.

Karen Gork.

CEHS, LEA

California Environmental Protection Agency

Department of Resources Recycling and Recovery

Gavin Newsom
California Governor
Amelia Yana Garcia Gonzalez
Secretary for Environmental Protection
Rachel Machi Wagoner
CalRecycle Director

October 16, 2023

Ms. Karen Gork, MPH, REHS
Chief Environmental Health Specialist
Solid Waste Management Inspection and Enforcement Program
Los Angeles County Department of Public Health – Environmental Health
5050 Commerce Drive
Baldwin Park, California 91706

Subject: Review of the Odor Incident at Chiquita Canyon Landfill (19-AA-0052)

Dear Ms. Gork:

CalRecycle staff are providing this letter in response to your request for technical assistance in reviewing the cause of the odor incident at the Chiquita Canyon Landfill (CCL). These emissions are causing significant impacts on people living and working near the landfill, as documented by South Coast Air Quality Management District (SCAQMD) investigations. As discussed later in this letter, you and your staff should work closely with SCAQMD and the Los Angeles Regional Water Quality Control Board (RWQCB) to address the issues at the site in a manner that will effectively reduce the impacts on the communities in the near term, leading to full resolution of the underlying problems in the long term.

The following comments are provided to the Local Enforcement Agency (LEA) as assistance to support the program in carrying out its responsibilities on permitted disposal sites. The final determination as to the comments to be provided to the responsible party is within the sole purview of the LEA, acting within the parameters of its discretion, in accordance with its vested authority under its certification as defined in Title 14, California Code of Regulations (14 CCR), Division 7, 27 CCR, Division 2, Subdivision 1 (Section 20005 et seq.), and Division 30 of the Public Resources Code.

For this technical request, I have reviewed the following documents submitted by the LEA:

- 2023 First Semi-Annual New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAP) Report, Chiquita Canyon Landfill;
- 2022 First Semi-Annual NSPS and NESHAP Report, Chiquita Canyon Landfill;

- 2022 Second Semi-Annual NSPS and NESHAP Report, Chiquita Canyon Landfill;
- 2021 First Semi-Annual NSPS and Startup, Shutdown, and Malfunction (SSM) Report, Chiquita Canyon Landfill;
- 2021 Second Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2020 First Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2020 Second Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2019 First Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2019 Second Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2018 First Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2018 Second Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2017 First Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2017 Second Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2016 First Semi-Annual NSPS and SSM Report, Chiquita Canyon Landfill;
- 2016 Second NSPS and SSM Report, Chiquita Canyon Landfill;
- South Coast Air Quality Management District (SCAQMD) Stipulated Order for Abatement for Chiquita Canyon Landfill, Case No. 6177-4;
- 2022 SCAQMD Annual Rule 1150.1 Compliance Plan Report, Chiquita Canyon Landfill, Castaic, California;
- 2021 SCAQMD Annual Rule 1150.1 Compliance Plan Report, Chiquita Canyon Landfill, Castaic, California;
- 2020 SCAQMD Annual Rule 1150.1 Compliance Plan Report, Chiquita Canyon Landfill, Castaic, California;
- 2019 SCAQMD Annual Rule 1150.1 Compliance Plan Report, Chiquita Canyon Landfill, Castaic, California;
- 2017 SCAQMD Annual Rule 1150.1 Compliance Plan Report, Chiquita Canyon Landfill, Castaic, California
- 2016 SCAQMD Annual Rule 1150.1 Compliance Plan Report, Chiquita Canyon Landfill, Castaic, California;
- Chiquita Canyon Landfill Well Data Feb 2022 - July 2023.xlsx;
- Various Well Temperature and Well Exceedance Data, Chiquita Canyon Landfill,
- Castaic, California;
- 2023 Chiquita Canyon LF Reaction Area Map.pdf;
- Chiquita Site Photos;
- Various laboratory analyses for carbon monoxide by EPA Method Alt-14, fixed gasses by ASTM-D1946-90, Total Sulfur Compounds by SCAQMD 307.91, toxic organic compounds by EPA Method TO-15 from October 2022 to July 2023;
- Monthly Report for Regular Variance (Case No. 6177-3), Chiquita Canyon;
- Landfill (Facility ID 119219), Castaic, California; and
- Various reports found on the Chiquita Canyon website https://chiquitacanyon.com/reports/landfill-reports/.

Background

The CCL is located at 29201 Henry Mayo Drive, Castaic, California, in northern Los Angeles County. The facility is a Class III non-hazardous municipal solid waste (MSW) landfill. The 639-acre landfill site began accepting waste in 1972. The landfill can receive up to 12,000 tons of MSW per day. The average daily tonnage in 2021 was reported to be 6,412 tons. The CCL only accepts non-hazardous solid waste for disposal, including municipal solid waste, green waste for composting or recycling, construction and demolition debris, and e-waste for recycling. The facility is prohibited from accepting hazardous waste that is ignitable, corrosive, reactive, or toxic. The landfill also does not accept biohazardous waste, household hazardous waste, radioactive materials, incinerator ash, sludge, automobile shredder waste, or liquid waste.

Recently, the CCL has experienced a significant increase in the number of odor complaints. In 2022, the CCL received only seven odor complaints directly; three were filed with the South Coast Air Quality Management District (SCAQMD). From January 1, 2023, to July 31, 2023, 869 odors were reported to the SCAQMD.

Regulatory Air Monitoring

The CCL has an extensive gas collection system operated under SCAQMD Permit No. G43917. The landfill gas (LFG) flares operate under SCAQMD Permit No. G73696 and the Permit to Construct Application No. 624296, while the LFG condensate collection and storage system operates under SCAQMD Permit No. G66132. The landfill site is permitted under the SCAQMD Title V permit (Facility ID No. 119219).

The LFG to Energy Facility (LFGTE) accepts LFG but is owned and operated by Ameresco Chiquita Canyon Energy LLC (Ameresco). The Ameresco facility operates under its own SCAQMD Title V permit.

The CCL is subject to the old and revised New Source Performance Standards (NSPS). The CCL submits semi-annual reports to the SCAQMD and the United States Environmental Protection Agency (USEPA) in compliance with 40 Code of Federal Regulations (CFR) Subpart WWW. In 2021, USEPA revised NSPS regulations and removed the oxygen limit for interior wells and the associated additional corrective action/enhanced monitoring requirements for oxygen under Subpart XXX/AAAA. However, the CCL continues to follow the oxygen limits under Subpart XXX because this rule is still referenced in the CCL's Title V Permit.

To evaluate the odor incident, the following sections of each NSPS semi-annual report were analyzed to understand the data trends and root cause:

- Prior Higher Operating Value Requests;
- Pressure requirements;

- Temperature and Oxygen Requirements;
- Corrective Action Analysis;
- Enhanced Monitoring;
- Surface Emission Monitoring;
- Cover Integrity;
- Additional Surface Emissions Monitoring;
- Well Expansion;
- Source Test – CO Emission Rate; and
- 24-Hour Temperature.

Higher Operating Values

The CCL has submitted several HOV requests to the SCAQMD for higher oxygen and temperature limits. On August 28, 2007, the CCL requested wells B-7, B-8, B-9, B-10, B-11, B-13, CV-22, D-6, D-7, D-8, D-9, D-10, D-11, P-1, P-2, P-3, P-4, P-5, P-12, P-13, P-14, P-22, P-23, P-24, P-56, P-78, and P-79 in the old unlined portion of the landfill be allowed to operate these wells at an oxygen limit of 10% to 15%.

On May 5, 2011, the CCL requested wells CV-90, H-39, CV-57D, CV-84D, CV-84S, and CV-85D be allowed to exceed the temperature limit of 131 Fahrenheit (°F) and operate at a temperature limit of 145°F.

On January 9, 2014 the SCAQMD approved these wells for higher temperature values and approved higher oxygen levels (i.e., 10 to 15%) in wells B-7, B-8, B-9, B-10, B-11, B-13, CV-22, D-6, D-7, D-8, D-9, D-10, D-11, P-1, P-2, P-3, P-4, P-5, P-12, P-13, P -14, P-22, P-23, P-24, P-56, P-78. On December 6, 2016, the SCAQMD approved additional higher temperature values of 131°F for wells CV-76, H-52A CV-100, CV-103, CV-104, CV-105, CV-50D, CV-50S, CV-51D, CV-51S, CV-52D, CV-52S, CV-53D, CV-53S, CV-54D, CV-54S, CV-55R, CV-56D, CV-57R, CV-74R, CV-79R, CV-107-56, CV-109-55, CV-1418, CV-1419, CV-1424, CV-1425, CV-1426, CV-1532, CV-1533, CV-108-52.

Possibly to account for where the odors are most likely being generated, the CCL used areas that settled one foot or more between June 19, 2023, and July 21, 2023. Figure 1 shows the reaction settlement area at the CCL.

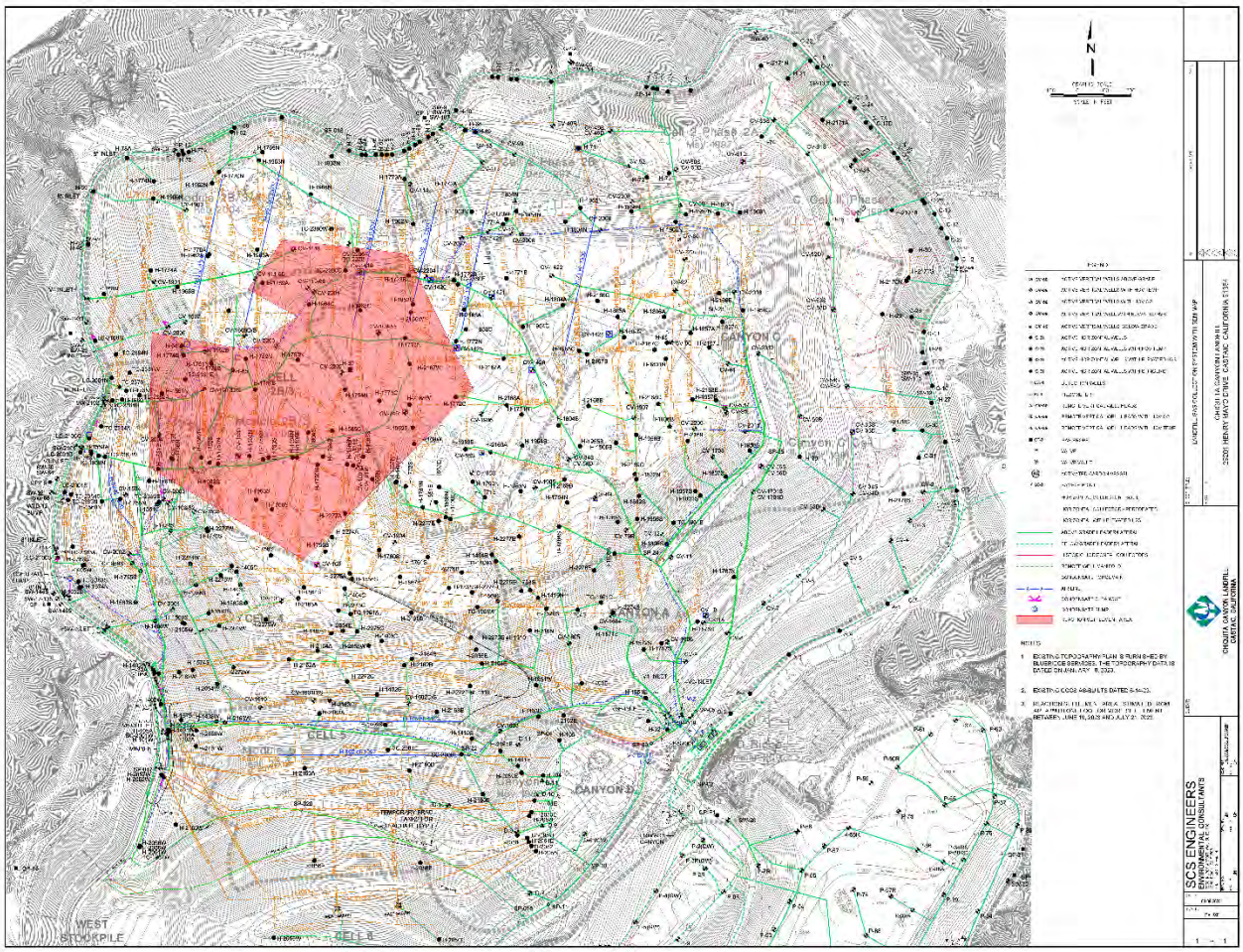

Figure 1. Reaction Settlement Area at the Chiquita Canyon Landfill. The red area was estimated using one foot or more settlement between June 19, 2023, and July 21, 2023.

Discussion

Determining if a landfill is experiencing a subsurface heating incident (i.e., gas temperatures above 145°F) involves the evaluation of the waste stream, LFG control system, landfill gas temperature and composition, carbon monoxide (CO) levels, physical evidence, odors, and accepted waste engineering practices. Heating incidents can occur from pre-combustion, combustion, post-combustion, and reactive wastes. Generally, to confirm a subsurface smoldering event (SSE), one must have visual confirmation or other physical conditions present. A smoldering event in municipal solid waste (MSW) can be confirmed by:

- Smoke emanating from the gas extraction well, sink hole, or landfill fissure;
- Combustion residue (i.e., carbon soot) in extraction wells, headers, or screens at the flare inlet;
- Black carbon tar-like substance along a fissure or crack in the area of concern;
- Unique MSW combustion odor;

- Substantial settlement over a short period (i.e., post-combustion indicator); and
- Landfill gas temperatures more than 176°F and/or levels of CO more than 1,500 parts per million by volume (ppmv) with one of the above indicators.

Several factors at a facility may affect the abovementioned parameters, including waste composition, moisture content, temperature, oxygen, compaction, landfill operations, leachate recirculation, LFG operations, cover properties, barometric pressures, waste cell construction, and other environmental issues.

A facility may also unknowingly accept reactive waste that may cause a fire or elevated temperature. Aluminum dross, incinerator ash, metal oxides, shredded tires, automobile shredder waste, sawdust, compost, pyrite, coal, or charcoal all have been shown to negatively impact the biological process with heat or directly cause a fire.

Excess oxygen can be introduced into the waste cell if a landfill's gas extraction system is not adjusted correctly or the cover and waste are not properly compacted. While high oxygen levels in a gas well do not directly correlate to a high temperature or an SSE, the more oxygen available in a gas well, the higher the risk of biological decomposition switching from anaerobic to aerobic and the greater the risk of subsurface fire.

These factors can lead to landfill temperatures above 165°F, including aerobic decomposition, pre-combustion, post-combustion, self-heating, partially extinguished surface fires, exothermic chemical reactions, spontaneous combustion, and smoldering combustion. MSW landfills have experienced elevated temperatures due to possible exothermic chemical reactions of industrial wastes, including aluminum production wastes, incinerator ash, and tires.

The most common types of landfill fires occur at the surface, where fuel and oxygen are abundant. These fires can burn between the surface and up to five feet below the ground level. Other subsurface fire events are initiated and develop deeper in the landfill and can extend past 50 feet or more below the ground level depending on geological and site conditions.

An operator can either increase or decrease the potential for a smoldering or heating event with how the waste is compacted and covered and how the landfill gas is controlled. A typical subsurface fire starts from overdrawing a gas collection system that allows oxygen to enter the waste prism. These fires start around or near a surface feature that allows oxygen to enter the waste mass and oxidize the organic matter. Most subsurface fires in gas collection systems are detected by elevated temperatures at the wellhead or by detecting CO or soot in the gas collection system. These fires are more likely to burn slowly without visible flame or large quantities of smoke and are characterized by rapid oxidation of organic waste. At times, combustion/oxidation will go undetected until a sinkhole (i.e., differential settlement) or smoke appears. Usually, an individual will not see actual flame or dark black smoke during smoldering events unless the subsurface fire is excavated or exposed to the atmosphere.

Carbon Monoxide

Smoldering combustion has been shown to produce CO concentrations of 1 to 10 percent (10,000 ppmv to 100,000 ppmv). In contrast, flaming combustion generally produces less than 0.02 percent (200 ppmv) CO. Other landfill fire literature uses CO concentrations as low as a few parts per million to 100 ppmv as a possible positive indicator of a landfill fire (Waste Age 1984; Environment Agency 2004; Industry Code of Practice 2008). Based on other landfill fire evaluations and case studies, other processes may produce CO at these concentrations. Therefore, one should use a higher CO concentration greater than 1,500 ppmv as the threshold value to prevent false assumptions.

After examining multiple CO results and data plots of CO versus menthane (CH4) from subsurface events, I concluded CO levels greater than or equal to 1,500 ppmv can still indicate an SSE if other indicators are observed. Typically, CO from active smoldering events ranges from 1,000 to 10,000 ppmv and has been documented to exceed 28,000 ppmv as the smoldering event breaks through the surface. Like landfill temperatures, CO readings should be examined, and trend plots should be developed over time. Like temperature, CO from a smoldering event will also reside in the waste prism LFG stream for an extended time. While elevated temperatures can remain over 18 to 24 months and longer, CO concentrations will begin to drop within 1 to 6 months as the smoldering event diminishes. Since the waste is not homogeneous and other waste management practices (e.g., compaction, leachate recirculation, types of waste, daily cover, waste cell size, access roads, gas extraction collection, and rates, etc.) may vary across the landfill, proximate monitoring points may indicate different readings. The entire suspected area and monitoring points should be examined continuously.

Temperature

It is also essential to understand that waste temperatures control the quality and quantity of LFG generated and are a factor in determining if an SSE is present. The NSPS requires each owner or operator to conduct enhanced monitoring and must include the results of all monitoring activities conducted during the period [§63.1961(a)(5) and (6)]. Enhanced monitoring is required at each well with a temperature greater than 145°F. Per §63.1958(c)(1) of the NSPS, once the landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 170°F and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, the owner or operator must report the date, time, well identifier, temperature, and carbon monoxide reading via email to the Administrator within 24 hours.

Typically, I consider temperatures over 170°F an indicator of a heating event in MSW and not as confirmation of a fire. Around temperatures of 176°F, anaerobic biological decomposition ceases, and methane production drops significantly, approaching zero. Depending on site conditions and the time it takes to reach the upper threshold of 176°F, one should investigate the heating incident further. Figure 2 shows this trend at

the CCL.

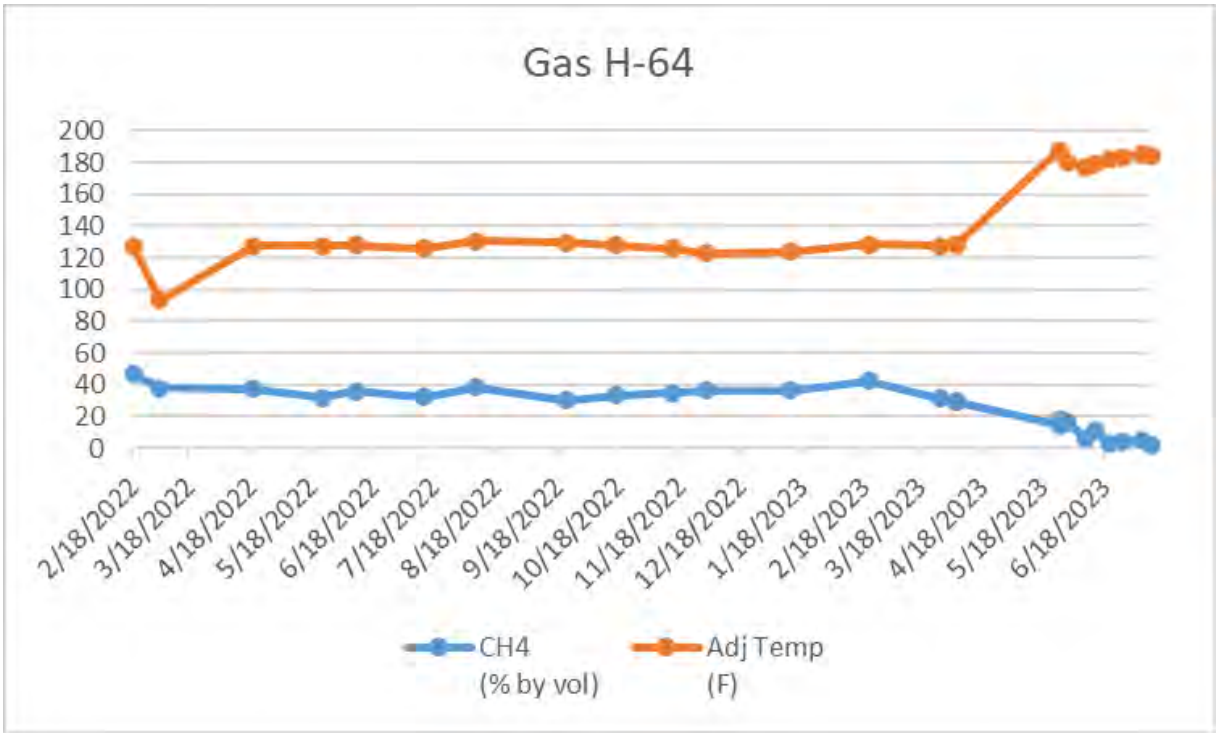

Figure 2. Gas Control Well H-64 – percent methane concentrations versus temperatures at Chiquita Canyon Landfill from February 2022 to July 2023.

If the temperature exceeds 200°F, significant damage can occur to the PVC well casings. PVC softens at 200°F and will begin to deform or become completely constricted as the temperature increases. The temperature at which PVC begins to degrade will vary depending on the specific grade and formulation used. Most video inspections can note if the well is damaged, pinched, collapsed, or blocked.

At 212°F, water and leachate will begin to boil. The transition from liquid to gas phase will cause an increase in volume (e.g., 1,700 times) and a resulting increase in pressure in the landfill. Additional leachate, gas, and odor have been observed in other landfills in the US when the temperature exceeds 212°F (e.g., Countywide Landfill in Ohio, Bridgeton Landfill in Missouri, Middle Point Landfill in Tennessee, and Bristol Landfill in Virginia).

Based on my experience, if temperatures exceed 350°F in an MSW and are reproducible, this temperature will confirm an SSE is occurring. Should landfill temperatures be below 350°F and above 212°F, then multiple parameters such as CO readings, physical evidence, or landfill gas ratios of CH4 to CO2 plots should be used to confirm SSE.

Volatile Organic Compounds (VOCs)

Smoldering combustion at waste facilities has also increased the concentration in some VOCs (e.g., benzene and methyl-ethyl ketone) one to two orders in magnitude. In general, gas concentrations of some VOCs emissions from Subtitle D landfills double with every 18°F temperature increase (ATSDR 2001). Benzene and methyl ethyl ketone are the two compounds that have consistently been found at elevated levels during landfill fire investigations. The presence of these compounds can be used to examine the likelihood of an SSE in conjunction with other parameters. According to the USEPA, benzene has also been shown to be the largest emission compound when household waste is burned.

Landfill Gas Control Systems Operation

All the smoldering events I evaluated have pre-indicators in the landfill gas control data. While the changes in the data might not initially be significant, cautionary trends can be observed when analysis is performed over a substantial period. The operator should closely monitor data for increasing oxygen and temperatures over time. The landfill operator should adjust their gas collection and control system both per the NSPS/Title V and their standard operating procedure when gas data indicates:

- Extraction system temperatures above 145°F;
- Excessive oxygen in gas collection wells greater than 5 percent; and/or
- Excessive nitrogen in gas collection wells greater than 20 percent.

The landfill operator should make additional adjustments to the landfill gas collection system and begin a heating/SSE evaluation when gas well data indicates the following trends:

- Extraction system temperatures exceeding 160°F;
- Upward temperature trend in gas collection wells greater than 5°F in less than one week;
- Dramatic downward trends in methane concentrations in less than one week;
- Methane concentrations dropping 20 percent within one month; and/or
- Excessive balance gas [e.g., primarily nitrogen (N2)] in the gas collection wells within one month.

The operator should take additional proactive steps when any of the following conditions occur:

- Extraction system temperatures exceeding 170°F;
- The melting, collapsing, or pinching of gas collection wells or leachate collection systems;
- Methane concentrations dropping below 30 percent in a short period;
- Orders of magnitude increases in benzene and/or methyl ethyl ketone

concentrations;
- Spike in nuisance odors;
- Change in gas composition;
- Increase in gas pressure and flow;
- Unusual rate of settlement; and/or
- Increase leachate volume and leachate outbreaks.

Findings

In this assessment, we examined parts of the old and new NSPS regulations to determine the efficiency and effectiveness of the gas collection system. Four key areas include landfill gas pressure, temperature, oxygen, and system integrity. The NSPS states that the owner shall operate the collection system with negative pressure at each wellhead except for (1) a fire or increased well temperature, (2) the use of a geomembrane or synthetic cover, and (3) a decommissioned well. New and old NSPS states that each interior wellhead in the collection system should operate with a temperature less than 131°F degrees (Subpart WWW and XXX) and 145°F (Subpart AAAA) with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent (Subpart WWW only). I also examined SCAQMD Annual Rule 1150.1 Compliance Plan Reports and other CCL reports and data. To start the assessment, I sorted the CCL Well Data Excel file by the highest temperature to understand the current condition of the incident. I also reviewed other parts of the semi-annual reports to help determine if the heating/smoldering event is contracting, expanding, or holding constant over time.

Heating/Smoldering Event

From all the available information, the heating/smoldering event at CCL is occurring in MSW and not in reactive waste such as aluminum dross, incinerator ash, metal oxides, or other non-MSW that would cause a chemical reaction. The data reviewed did not reveal any documented slope instability that would cause gas wells to be blocked, damaged, plugged, or pinched. As of July 21, 2023, the Reaction Settlement Area is experiencing increasing temperature and CO levels and is expanding in size. The highest temperatures in the gas well field were recorded in July 2023. A trend analysis of the reported CO sampling results showed CO is increasing in nine wells, remaining stable in three wells, and decreasing in five wells. Figures 3, 4, and 5 show the CO concentration trend analysis in three monitoring wells required to undergo enhanced monitoring per the NSPS.

The heating/smoldering event appears to spread to gas wells CV-2003 and TC2382E. Well H-1561C was previously impacted but is showing a decrease in temperature over time. Also, wells H-1803N and CV-55R appear affected by elevated temperatures and CO readings. Well TC-2385A is new and not shown on the Reaction Settlement Area map, but it is also experiencing high temperatures.

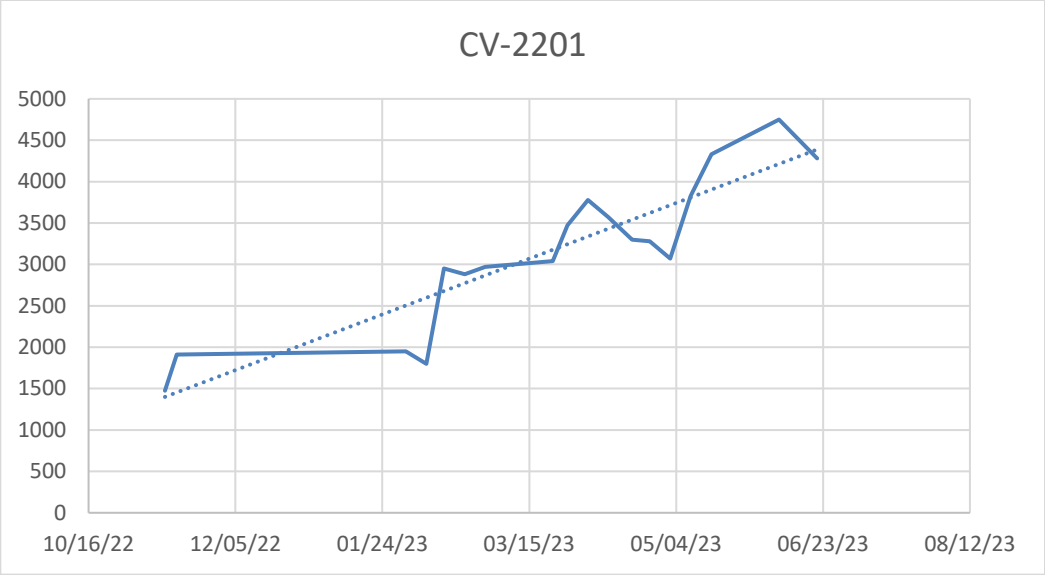

Figure 3. Enhanced Monitoring for Well CV-2201 with a positive CO trendline at the Chiquita Canyon Landfill.

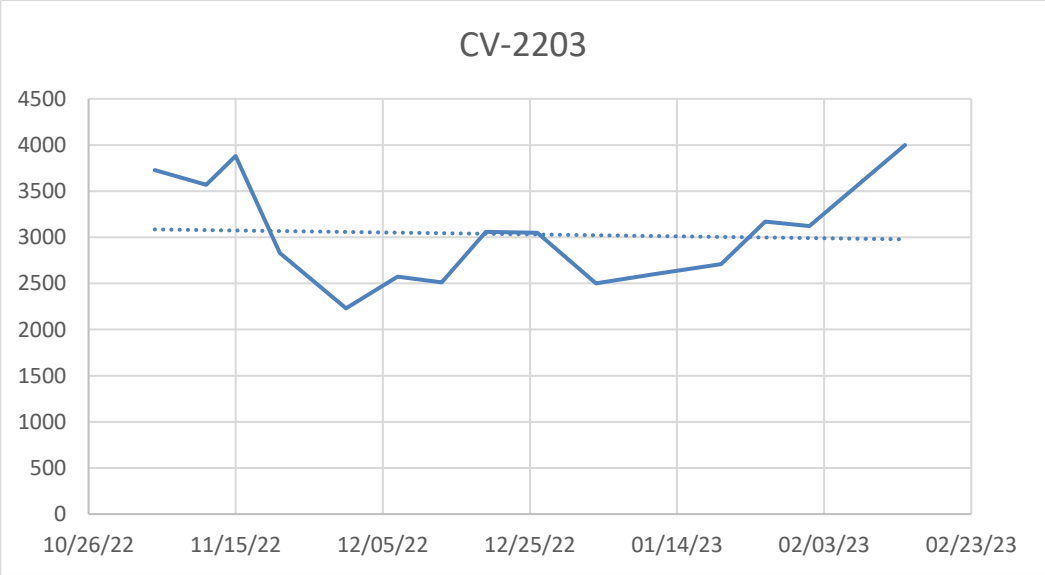

Figure 4. Enhanced Monitoring for Well CV-2203 with a neutral CO trendline at the Chiquita Canyon Landfill.

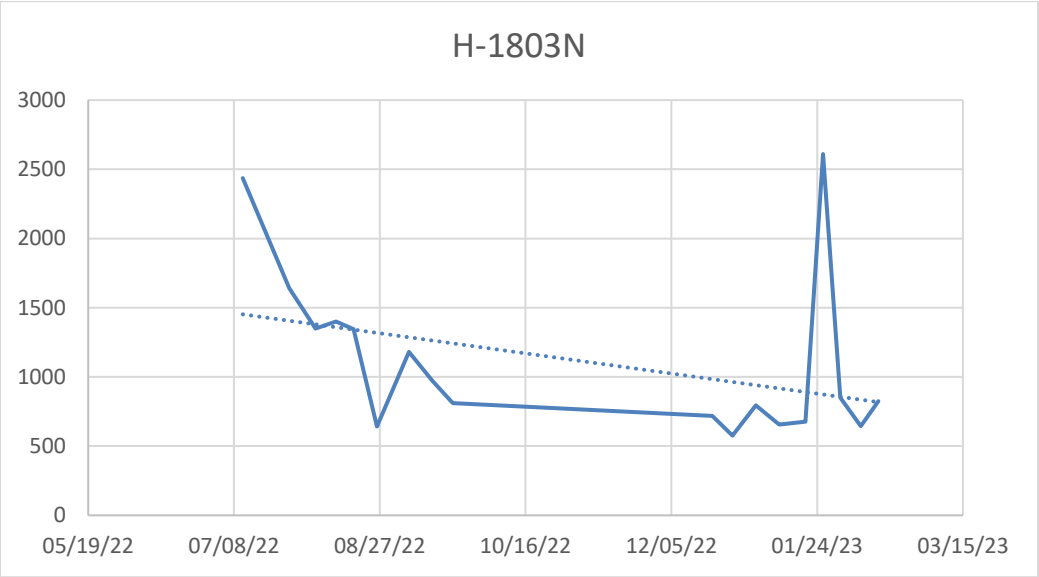

Figure 5. Enhanced monitoring for Well H1803 with a negative CO trendline at the Chiquita Canyon Landfill.

Point of Origin

Based on the available LFG data from February 1, 2022, to July 31, 2023, the pre-combustion/SSE incident may have started at gas control well CV-109-55 and spread to CV-1419 and then CV-1418. However, using the SCAQMD Annual Rule 1150.1 Compliance Plan Reports from 2016, 2017, 2019, 2020, 2021, and 2022, the CCL temporarily decommissioned or decommissioned several wells due to the concern for a potential subsurface oxidation. In 2017, only one well was decommissioned due to the pinched casing and high oxygen levels. No data was available for 2018, but in 2019, 31 wells were temporarily decommissioned or abandoned due to high oxygen levels and the concern for potential subsurface oxidation. In 2020, 69 wells were temporarily decommissioned or decommissioned due to high oxygen levels or poor gas generation and the concern for potential subsurface oxidation. In 2021, the number of wells temporarily decommissioned or decommissioned was 83; in 2022, it was 34. Also, in 2022, two unique events were noted in Appendix B of the report labeled "Flare Station Periods Offline for More Than One Hour." Two offline events occurred on April 6, 2022, and April 26, 2022, noting that the combustion air blower in FL-100 accumulated too much dirt and debris, causing a highly restricted airflow, resulting in FL-100 shut down due to low combustion airflow. Further information and photos should be collected on these two events to ensure this was not soot or particles resulting from a smoldering event.

Additional field gas data from January 2019 to January 2022 will be necessary to trace this incident further or to determine if multiple incidences have occurred. Table 1 provides the temperature data where the most significant temperature change occurred in February 2022.

Table 1. Possible location of initial pre-combustion/SSE incident location at Chiquita Canyon Landfill, 2022.

Well	Date/Temp	Date/Temp	Change in Temperature
CV-109-55	2/1 - 164°F	2/23 - 169°F	5°F
CV-1419	2/17 - 151°F	2/23 - 186°F	35°F
CV-1418	2/23 @ 10:51 am 101°F	2/23 @11:06 am 140°F	39°F

Temperatures

While one of the highest reported gas well temperatures occurred on July 18, 2023, in CV-1418 at 197°F, the SCAQMD reported the highest temperature to date was 201°F on September 26, 2023, at well CV-2393.

While gas wellhead temperatures can be a reliable data point, temperatures in the well can be up to 100 ºF lower than those measured deeper. Gas wellhead temperature can be diluted given the depth of the screen and volume of gas being extracted. For example, a gas well in Hawaii reported a temperature at the wellhead to be 128°F. However, the measured temperature at 80 feet below ground surface was 233°F. This 105°F swing in gas wellhead temperature can indicate other reactions are occurring.

Per NSPS §63.1958(c)(1) requirements, the CCL reported seventeen wells that were over 170°F or had CO measurements over 1,000 ppmv in the first semi-annual report of 2023. This regulation requires the operator to collect CO samples in the gas well and collect a temperature profile in the well. Several gas wells had higher temperatures in the well than at the wellhead. At CV-2201, the wellhead temperature was recorded at 135°F while the down well was 187°F. The 52°F temperature difference is a significant result. Temperature and carbon monoxide must be applied when determining which wells to perform a down well temperature survey every 10 feet. Two CCL wells were below the enhanced monitoring requirement temperature of 145°F at the wellhead but over the 170°F threshold in the down well temperatures. Table 2 provides the results of the wellhead temperature vs. actual below-ground temperatures at the CCL for July 2023.

Table 2. Enhanced monitoring down well temperatures (F) at Chiquita Canyon Landfill, July 2023 (Source: 2023 First Semi-Annual NSPS and NESHAP Report).

Enhanced Monitoring Down Well Temperatures (°F)				
Well	Wellhead Temp (°F)	Highest Temp (°F) in Well @ Depth		Comments from 2023 First Semi-Annual NSPS and NESHAP Report
CV-55R	148	166		Damage well casing at 20ft.
CV-1418	Not Collected			Tape got stuck and destroyed at 130ft. Total depth possibly not accurate.
CV-1419	Not Collected			4 meters suspect well is plugged/pinched.
CV-1532	153	153		Possible well casing damage. Unable to proceed past 20ft.
CV-1902D	141.5	**188***		(*Note: temp difference of 46.5°F)
CV-2003	154	179		
CV-2004	166	175		
CV-2201	135	**187***		(*Note: temp difference of 52°F)
CV-2202	Not Collected			Unable to monitor down well temp with sounder due to safety.
CV-2204	Not Collected			Unable to monitor down well temp with sounder due to safety.
H-1561C	146	153		Well likely damaged at 16ft. Casing leaning over.
H-1561N	168	180		Likely casing damage at 10ft.
H-1774A	173	172		
H-64	183	177		
H-67	173	158		
TC-2381W	129	128		New trench collector on West slope.
TC-2382E	173	172		New trench collector on West slope.

The number of temperatures exceeding 170°F in the gas wells may also pose a risk to the liner system at the CCL. Assessing temperature impacts on the service life of geomembrane (GM) liners can be a critical pathway for heating incidents if temperatures are observed in the leachate collection system above 130°F. Temperature plays the most crucial role in GMs' physical and chemical properties.

Carbon Monoxide

During the 2023 first semi-annual NSPS report, the CCL collected 224 CO samples from the LFG wells per the enhanced monitoring requirement provision of the revised NSPS. The results indicate that 154 out of 224 (or 68 percent) of the samples exceed 1,500 ppmv. The highest CO readings were at well CV-1419 (6,550 ppmv CO) and well CV-1902D (6,240 ppmv CO). In comparison, only one well was required to have enhanced monitoring in the first semi-annual report of 2022.

Using the previously discussed criteria, a map of the heating/smoldering event as of

July 2023 is shown in Figure 6. Wells with CO above 1,500 ppm (indicated by a green circle) and temperatures over 170°F (indicated by a blue circle) were plotted on the CCL's Reaction Settlement Area Map. Circles that share a boundary indicate the well has high CO and temperature.

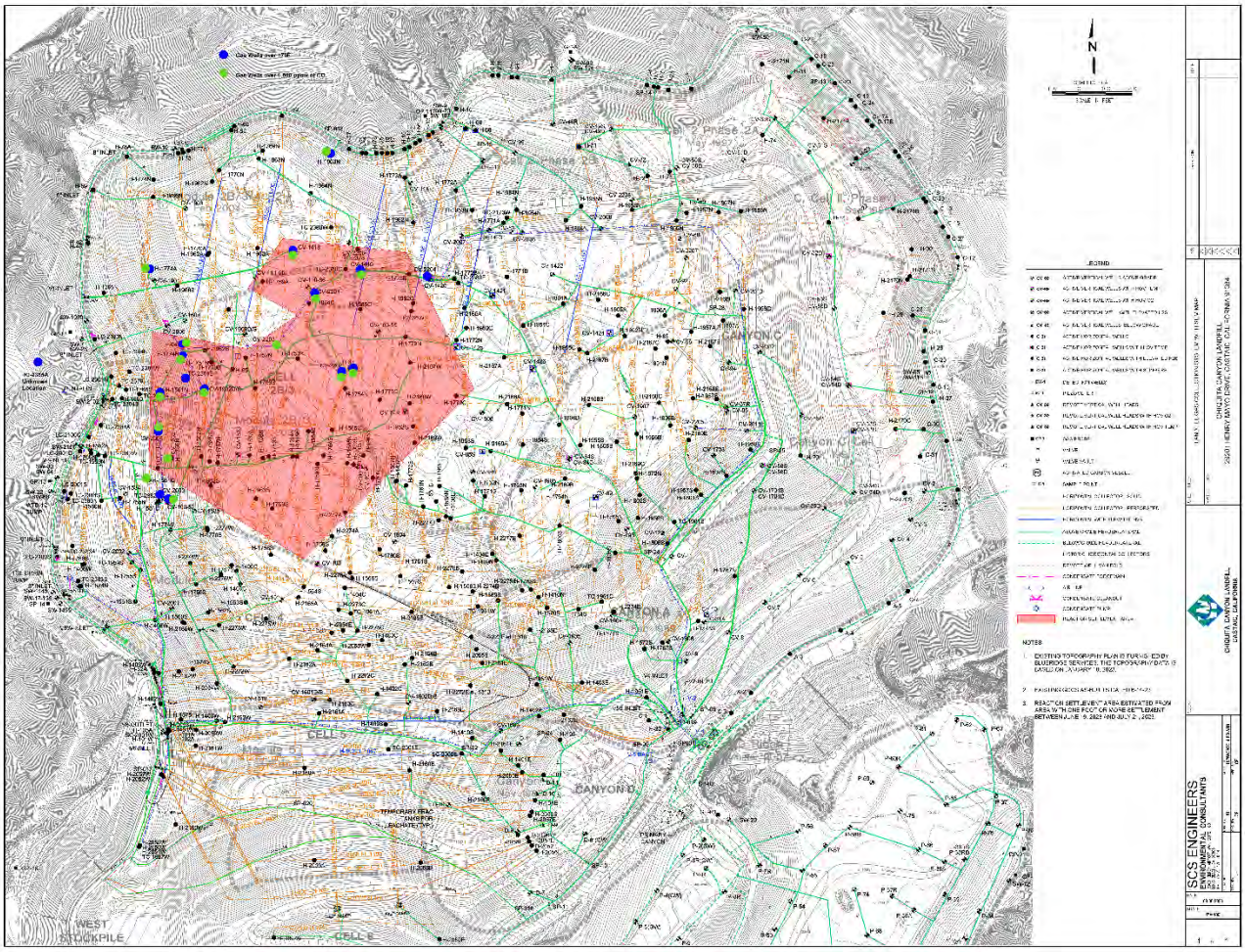

Figure 6. Gas Wellheads exceeding temperatures over 170°F and CO over 1,500 ppmv at the Chiquita Canyon Landfill, July 2023.

Landfill Gas Well Performance

While comparing landfill gas system performance from 2022 to the first half of 2023 is challenging, the Chiquita Canyon Landfill Well Data from February 2022 to July 2023 Excel file was used to develop a ratio of gas well data per day. The most significant result was that the number of positive pressure wells (initial static pressure) per day in 2023 doubled compared to 2022. If an extraction well has positive pressure, then gasses and odor are more likely to be released from the landfill in that area. To examine past performance, I picked six months in 2016 from the semi-annual report and found only one reported positive pressure event. Based on the odors and landfill gas performance data, the landfill gas control system is not effectively controlling LFG

emissions in areas where positive pressure is measured in wells. Additionally, the CCL landfill operations continue to overdraw oxygen above five percent, increasing the risk of an SSE. Table 3 summarizes the gas well performance for the amount of oxygen in each well, the number of wells with zero flow, and the number of wells with positive initial static pressure above 0.1 inches of water.

Table 3. Gas well performance at Chiquita Canyon Landfill, 2016, 2022, and 2023.

Gas Well Performance at CCL					
Gas Well Data	**2022 Data**	**# per day**	**2023 Data**	**# per day**	**2016 Data**
Wells with 0% Oxygen	4520	13.65	3175	17.63	
Oxygen from 0.1 to 5.0%	1630	4.92	4189	23.27	
Oxygen from 5.1 to 10.0%	218	0.65	111	0.61	Jan to
Oxygen from 10.1 to 15.0%	152	0.45	95	0.52	June
Oxygen from 15.1 to 20.0%	212	0.64	100	0.55	2016
Oxygen from 20.1 to 22.2%	66	0.19	80	0.44	
0.0 Initial Flow (scfm)	2225	6.72	1493	8.29	
Positive Initial Pressure > 0.1 in H2O	252	0.76	287	1.59	1
Number of Monitoring Days	331		180		181

Odors

The odors at the CCL are from a heating/smoldering incident in the waste. The doubling of positive wells from 2022 to 2023 is a concern and shows the gas collection system is not correctly capturing the gas and odors. Some temperatures in the reaction zone of the landfill are most likely above 200°F, causing additional gas pressure and damage to the gas extraction wells.

Data Discrepancies

The well data covered a period from February 1, 2022, to July 31, 2023. Data for some wells appeared missing for several reporting periods; however, all these discrepancies were explained in the semi-annual reports. These wells were either decommissioned due to filling operations, abandoned, or not placed in service. The well data file did have other discrepancies. There were 100 lines in the spreadsheet that had date and time field entries but no landfill gas data. Table 4 provides an example of the data discrepancies.

Table 4. An example of data discrepancies in the Chiquita Canyon Landfill Well Data Excel file where the gas data is missing, but data and time are logged.

CV-2203	12/13/2022 09:07	1.00	84.30	0.00	14.70	151.20	151.20	-18.89	-18.89	68.40	67.00	-26.14	Comments:No Adjustments Made,High Temp,Barely Open,Surging Liquid in Well (Watered In),,,,
CV-2203	12/13/2022 09:11												
CV-2203	12/13/2022 09:11												6.1% H2
CV-2203	12/19/2022 10:01												6.4% H2
CV-2203	12/19/2022 10:04	1.30	85.10	0.00	13.60	151.50	151.40	-22.80	-22.13	65.80	68.20	-25.17	Comments:NSPS/EG CAI,High Temp,Decreased Flow/Vacuum,Surging Liquid in Well (Watered In),,,,
CV-2203	12/19/2022 10:26												
CV-2203	12/21/2022 10:10	1.10	85.90	0.00	13.00	149.90	149.90	-16.56	-17.31	45.00	41.80	-19.13	Comments:NSPS/EG CAI,High Temp,Increased Flow/Vacuum,Surging Liquid in Header,,,,

Conclusion and Recommendations

Based on my professional experience, education, training, site documentation, available CCL reports, and personal knowledge of solid waste engineering with smoldering and heating events, I have determined with a reasonable degree of professional and scientific certainty that the CCL has sustained the following conditions during the past eighteen months:

- Cover integrity issues;
- Increased temperatures and pressures in the landfill gas control systems and waste mass;
- Oxygen intrusion above 5 percent by volume;
- Landfill gas temperatures over 170°F;
- Landfill subsurface temperatures over 195°F;
- Decreased methane production;
- Elevated carbon monoxide concentrations above 1000 ppmv;
- Unusually landfill settlement;
- Damage gas wells; and
- Poor gas well performance in and around the Reaction Settlement Area; and
- The heating/smoldering event is expanding in size and intensity.

These conditions at the CCL are causing additional gas pressure, odors, elevated leachate temperatures, and damage to the gas extraction system. The landfill gas generated in and around the reaction settlement area has exceeded the designed gas generation flow rate and caused increased emissions and odors. Since there are short-term and long-term environmental control issues, CalRecycle recommends working with SCAQMD and the RWQCB to address the gas control, emission, odors, and leachate issues.

To reduce the odors and better define the reaction, the CCL may want to consider the following actions:

1. Repair cracks in the soil cover within 48 hours in and around the Reaction Settlement Area and any well showing signs of a reaction;
2. Place and compact a minimum cover of 24 inches of 1 $x10^{-6}$ low permeability soil in and around the Reaction Settlement Area and a radius of 30 feet of soil around any well with temperatures over 160ºF or CO concentrations over 1,500 ppmv;
3. Install well boots seals on all wells in and adjacent to the Reaction Settlement Area and any wells with temperatures over 160ºF or CO concentrations over 1,500 ppmv;
4. Replace all PVC wells that have been damaged, blocked, pinched, or that have gas temperatures over 145°F with steel wells;
5. Install additional steel wells in the Reaction Settlement Area and other areas where the gas extraction temperature exceeds 170°F to capture the additional gas generated by the incident;
6. Once additional gas extraction capacity is installed, remove all oxygen HOVs for interior gas wells and operate gas extraction wells with less than 3 percent oxygen where feasible. Use best management practices to keep oxygen below 5 percent in an interior well;
7. Measure the leachate temperate at the liner level and all sumps;
8. Sample the leachate for benzene and other volatile organic compounds. Past incidents similar to Chiquita Canyon in Bridgeton and Bristol have shown that heating event increases the levels of VOCs in the leachate;
9. Install temperature monitoring devices in and around the Reaction Settlement Area and other areas where gas temperatures exceed 170°F or CO over 1000 ppm. These devices should be installed within 25 ft of a vertical LFG extraction well. These temperature devices should be able to sustain temperatures up to 750°F and be installed in boreholes up to 150 feet deep. The temperature devices should be spaced at 20-foot intervals and based on previous designs from SCS Engineering projects in Bridgton, San Diego, and Bristol. Since the temperature profiles were not successfully collected at the required enhanced gas wells C-55R, CV-1418, CV-1419, CV-1532, CV-2202, CV-2204, H-1561C, H-1561N, below-ground temperature devices should be first installed at these wells;
10. The landfill owner should review available internal manifests or other documents as far back as possible to ensure no reactive material was accepted at this landfill;
11. The landfill owner should hire an odor expert to determine which chemicals are causing the odor. A past expert at Bridgeton Landfill in Missouri identified a set of chemicals causing the greatest odor. Once the chemicals are identified, additional toxicological assessment can be performed;
12. Design and install a temporary geomembrane cover over the Reaction Settlement Area and other areas where gas temperatures have exceeded 170°F or CO over 1000 ppm once additional gas extraction capacity is operational;
13. Consider installing remote telemetry technology to continuously collect and analyze landfill gas data at the collection wells. The real-time data and control platform can instantaneously measure and report wellhead temperatures, pressures, O2, CO, and methane concentrations. Remote access to the real-time data should be provided to regulatory agencies;
14. Consider utilizing a drone or land rover equipment with GPS, methane, and gas

sensors to conduct daily instantaneous surface monitoring and provide real-time data throughout the Reaction Settlement Area and adjacent areas of concern. This technology can facilitate immediate operational changes, including flagging hot spots, surface cracks, and fissures.

15. To better understand and communicate to the community if the heating/smoldering event is expanding or increasing in intensity, the CCL should submit monthly figures and data showing the reaction area, CO level, and temperature data.

Please do not hesitate to contact me by telephone at (916) 341-6356 or by email at Todd.Thalhamer@Calrecycle.ca.gov if you have comments or questions.

Sincerely,

Todd Thalhamer, P.E.
Senior Waste Management Engineer
CalRecycle

Cc: Shikari Nakagawa-Ota, Los Angeles County Department of Public Health (sota@ph.lacounty.gov)
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October 17, 2023

VIA EMAIL ONLY

Mr. Steve Cassulo
Steven.Cassulo@WasteConnections.com
District Manager
Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, CA 91384

Subject: **CHIQUITA CANYON LANDFILL (SWIS No. 19-AA-0052)**
CALRECYCLE REVIEW OF THE ONGOING ODOR INCIDENT AT CHIQUITA CANYON LANDFILL

Dear Mr. Cassulo:

In response to significant increases in landfill gas production and emission, leachate, and odors at the Chiquita Canyon Landfill (CCL), the Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), requested CalRecycle to provide its technical expertise and assistance in determining the cause of these multiple serious issues. Please find the enclosed October 16, 2023 correspondence from CalRecycle that contains its analysis of the conditions that are causing these issues at the CCL.

As part of this analysis, CalRecycle conducted a comprehensive review of multiple years of CCL records. It focused its analysis on CCL's carbon monoxide concentrations, recent landfill gas temperatures at CCL, CCL's landfill gas control system operation, and other operational factors. The CalRecycle analysis determined that the CCL has sustained the following conditions during the past 18 months:

- Cover integrity issues;
- Increased temperatures and pressures in the landfill gas control systems and waste mass;
- Oxygen intrusion above 5% by volume;
- Landfill gas temperatures over 170°F;
- Landfill subsurface temperatures over 195°F;
- Decreased methane production;
- Elevated carbon monoxide concentration above 1000 ppmv;
- Unusual landfill settlement;
- Damaged gas wells;
- Poor gas well performance in and around the Reaction Settlement Area; and
- A heating/smoldering event that is expanding in size and intensity.

Importantly, CalRecycle concluded that these "conditions at the CCL are causing additional gas pressure, odors, elevated leachate temperatures, and damage to the gas extraction system." These are serious issues and have likely caused the many violations cited by the South Coast Air Quality Management District (SCAQMD) investigations this year. The CalRecycle analysis presents compelling evidence that the CCL needs to act promptly to address the current conditions for the protection of public health and the environment.

To address the multiple abnormal conditions being experienced at the CCL, CalRecycle has made the following recommendations to immediately address landfill gas control, emission, odor and leachate issues. CCL should implement the recommended mitigation measure and continue to work with the appropriate State and local agencies to resolve the odor nuisance and the serious conditions at the landfill.[1] If prompt steps are not taken, the condition is likely to worsen, and may threaten the integrity of the landfill, thereby compromising the landfill cover. (See, 27 California Code of Regulations ("CCR") §§ 20680 and §20700).

Accordingly, the LEA now expects CCL to take the following corrective and mitigation actions:

1. Repair cracks in the soil cover within 48 hours in and around the Reaction Settlement Area and any well showing signs of a reaction;
2. Place and compact a minimum cover of 24 inches of 1 x10-6 low permeability soil in and around the Reaction Settlement Area and a radius of 30 feet of soil around any well with temperatures over 160ºF or CO concentrations over 1,500 ppmv;

[1] California's environmental laws are enforced by state and local agencies, each responsible for enforcing the laws governing a specific media such as air, water, hazardous waste, solid waste, and pesticide laws. Therefore, regulations governing solid waste disposal in the State of California enforced by the LEA do not address air or water quality aspects of the environment that are regulated by other state or local agencies. (27 CCR § 20005(b); Public Resources Code § 43021).

3. Install well boots seals on all wells in and adjacent to the Reaction Settlement Area and any wells with temperatures over 160ºF or CO concentrations over 1,500 ppmv;
4. Replace all PVC wells that have been damaged, blocked, pinched, or that have gas temperatures over 145°F with steel wells;
5. Install additional steel wells in the Reaction Settlement Area and other areas where the gas extraction temperature exceeds 170°F to capture the additional gas generated by the incident;
6. Once additional gas extraction capacity is installed, remove all oxygen HOVs for interior gas wells and operate gas extraction wells with less than 3 percent oxygen where feasible. Use best management practices to keep oxygen below 5 percent in an interior well;
7. Measure the leachate temperate at the liner level and all sumps;
8. Sample the leachate for benzene and other volatile organic compounds. Past incidents similar to Chiquita Canyon in Bridgeton and Bristol have shown that heating event increases the levels of VOCs in the leachate;
9. Install temperature monitoring devices in and around the Reaction Settlement Area and other areas where gas temperatures exceed 170°F or CO over 1000 ppm. These devices should be installed within 25 ft. of a vertical LFG extraction well. These temperature devices should be able to sustain temperatures up to 750°F and be installed in boreholes up to 150 feet deep. The temperature devices should be spaced at 20-foot intervals and based on previous designs from SCS Engineering projects in Bridgton, San Diego, and Bristol. Since the temperature profiles were not successfully collected at the required enhanced gas wells C-55R, CV-1418, CV-1419, CV-1532, CV-2202, CV-2204, H-1561C, H-1561N, below-ground temperature devices should be first installed at these wells;
10. The landfill owner should review available internal manifests or other documents as far back as possible to ensure no reactive material was accepted at this landfill;
11. The landfill owner should hire an odor expert to determine which chemicals are causing the odor. A past expert at Bridgeton Landfill in Missouri identified a set of chemicals causing the greatest odor. Once the chemicals are identified, additional toxicological assessment can be performed;
12. Design and install a temporary geomembrane cover over the Reaction Settlement Area and other areas where gas temperatures have exceeded 170°F or CO over 1000 ppm once additional gas extraction capacity is operational;
13. Consider installing remote telemetry technology to continuously collect and analyze landfill gas data at the collection wells. The real-time data and control platform can instantaneously measure and report wellhead temperatures, pressures, O2, CO, and methane concentrations. Remote access to the real-time data should be provided to regulatory agencies, i.e., SCAQMD;
14. Consider utilizing a drone or land rover equipment with GPS, methane, and gas sensors to conduct daily instantaneous surface monitoring and provide real-time data throughout the

Reaction Settlement Area and adjacent areas of concern. This technology can facilitate immediate operational changes, including flagging hot spots, surface cracks, and fissures.

15. To better understand and communicate to the community if the heating/smoldering event is expanding or increasing in intensity, the CCL should submit monthly figures and data showing the reaction area, CO level, and temperature data.

The LEA requests that the CCL provide a written response and timeline to address the recent conditions sustained by the CCL in the prior 18 months and the 15 CalRecycle recommended corrective and mitigation actions by Friday, October 20, 2023. The LEA recognizes the CCL is experiencing a significant heating and smoldering event, which must be mitigated, controlled and corrected.

Thank you for your anticipated cooperation. Should you have any questions regarding the foregoing, please contact me.

Sincerely,

Karen Gork, Chief Environmental Health Specialist
Los Angeles County LEA

Enclosure

cc: (Via electronic correspondence only)

- Robert Ragland, Los Angeles County Department of Public Health
- Liza Frias, Los Angeles County Department of Public Health
- Nichole Quick, M.D., Los Angeles County Department of Public Health
- Shikari Nakagawa-Ota, Los Angeles County Department of Public Health
- Renee Jensen, LEA Counsel (rjensen@fwhb.com)
- Blaine McPhillips, Senior Deputy County Counsel
- Emiko Thompson, Los Angeles County Department of Public Works
- Alex Garcia, Los Angeles County Department of Regional Planning
- Ai-Viet Huynh, Los Angeles County Department of Regional Planning
- Wes Mindermann, CalRecycle (wes.mindermann@calrecycle.ca.gov)
- Janelle Heinzler, CalRecycle (janelle.heinzler@calrecycle.ca.gov)
- Jeff Lindberg California Air Recourses Board (jeff.lindberg@arb.ca.gov)
- Vanessa Aguila, California Air Resources Board (vanessa.aguila@arb.ca.gov)
- Jack Cheng, South Coast Air Quality Management Board (jcheng@aqmd.gov)
- Larry Israel, South Coast Air Quality Management Board (lisrael@aqmd.gov)
- Douglas Cross, Los Angeles Regional Water Quality Control Board (dcross@waterboards.ca.gov)

California Environmental Protection Agency

Department of
Resources Recycling and Recovery

Gavin Newsom
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CalRecycle Director

November 14, 2023

Ms. Karen Gork, MPH, REHS
Chief Environmental Health Specialist
Solid Waste Management Inspection and Enforcement Program
Los Angeles County Department of Public Health – Environmental Health
5050 Commerce Drive
Baldwin Park, California 91706

Subject: Review Chiquita Canyon Landfill (19-AA-0052) Response Letter

Dear Ms. Gork:

CalRecycle staff are providing this letter in response to your request for technical assistance in reviewing the Chiquita Canyon Landfill (CCL) response letter concerning the odor incident.

The following comments are provided to the Los Angeles Local Enforcement Agency (LEA) as assistance to support the program in carrying out its responsibilities on permitted disposal sites. The final determination as to the comments to be provided to the responsible party is within the sole purview of the LEA, acting within the parameters of its discretion, in accordance with its vested authority under its certification as defined in Title 14, California Code of Regulations (14 CCR), Division 7, 27 CCR, Division 2, Subdivision 1 (Section 20005 et seq.), and Division 30 of the Public Resources Code.

For this response, I visited the site on November 2, 2023, and reviewed the following documents submitted to the LEA:

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Regional Water Quality Control Board (RWQCB), Department of Toxic Substances Control (DTSC), and the United States Environmental Protection Agency (USEPA) toured the site with CCL staff. During the visit, CCL staff discussed the remedial and odor control actions they had implemented. The CCL has installed 48 new gas control wells. Based on temperature readings during drilling, the new gas wells were constructed using either PVC-SHC 80, CVPC-SHC 80, or stainless steel. While installing the stainless-steel gas wells in some areas with the highest recorded temperatures, three well borings (i.e., CV-1534A, CV-1532B, and CV2338) resulted in the release of leachate under pressure. The CCL is also installing a French drain along the western slope to mitigate the leachate outbreak. To address off-site odors, the CCL staff has placed several agricultural-size fans at the west boundary of the landfill. During the site visit, I detected odors onsite and used real-time field equipment to monitor temperatures, volatile organic compounds (VOCs), oxygen, carbon monoxide, methane, and hydrogen sulfide.

A leachate outbreak in the north at map grid A-5/6 was observed by CalRecycle staff during the site visit. The area around gas well CV-2201 at map grid C-5 was also viewed. See Attachment A photo log for CV-2201. This area has settled 25 to 30 feet since 2022. The slope to the original grade outside the settlement area at gas wells CV-2305 and CV-2315, map grid C/D-6, was walked. At the toe of the slope, a second leachate outbreak and the construction of the French drain at map grid D/E/F-2 were observed. The CCL stated some over-saturated waste had slipped down the toe of the west slope.

During the visit, we discussed whether CCL staff or its consultant had observed industrial waste in the 48 new borings. The staff said the boring materials were typical municipal solid waste, but the observed waste from the reaction area was very wet with little cohesiveness. We also discussed slope instability at the toe of the western slope and whether the French drain would be designed to account for the low shear strength of the wet waste. Lastly, we discussed developing a containment strategy for the reaction area if it expands to the east and impacts the current disposal face. A containment strategy would include the installation of a reaction break made of soil at some predesignated area if the reaction reached the designated containment line.

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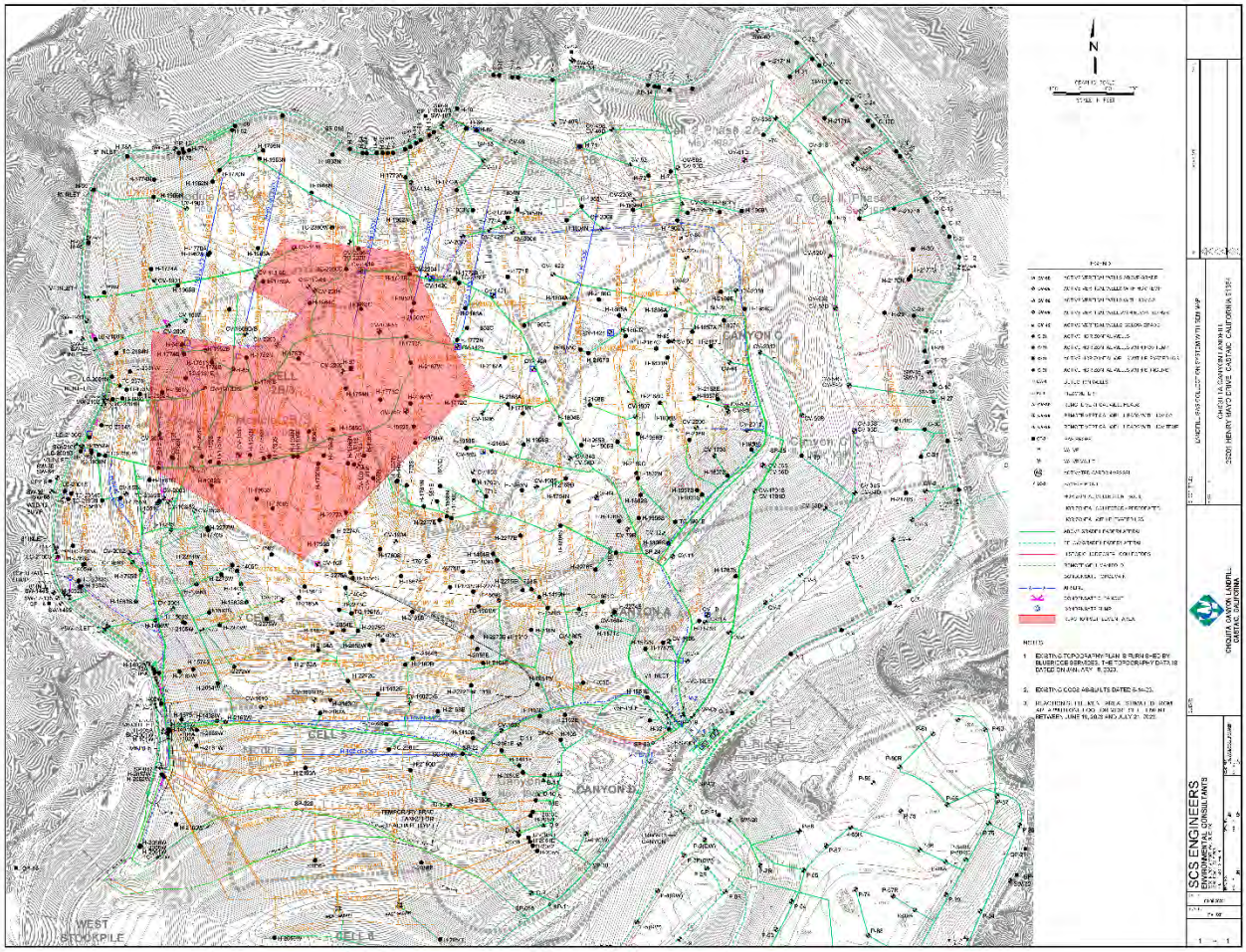

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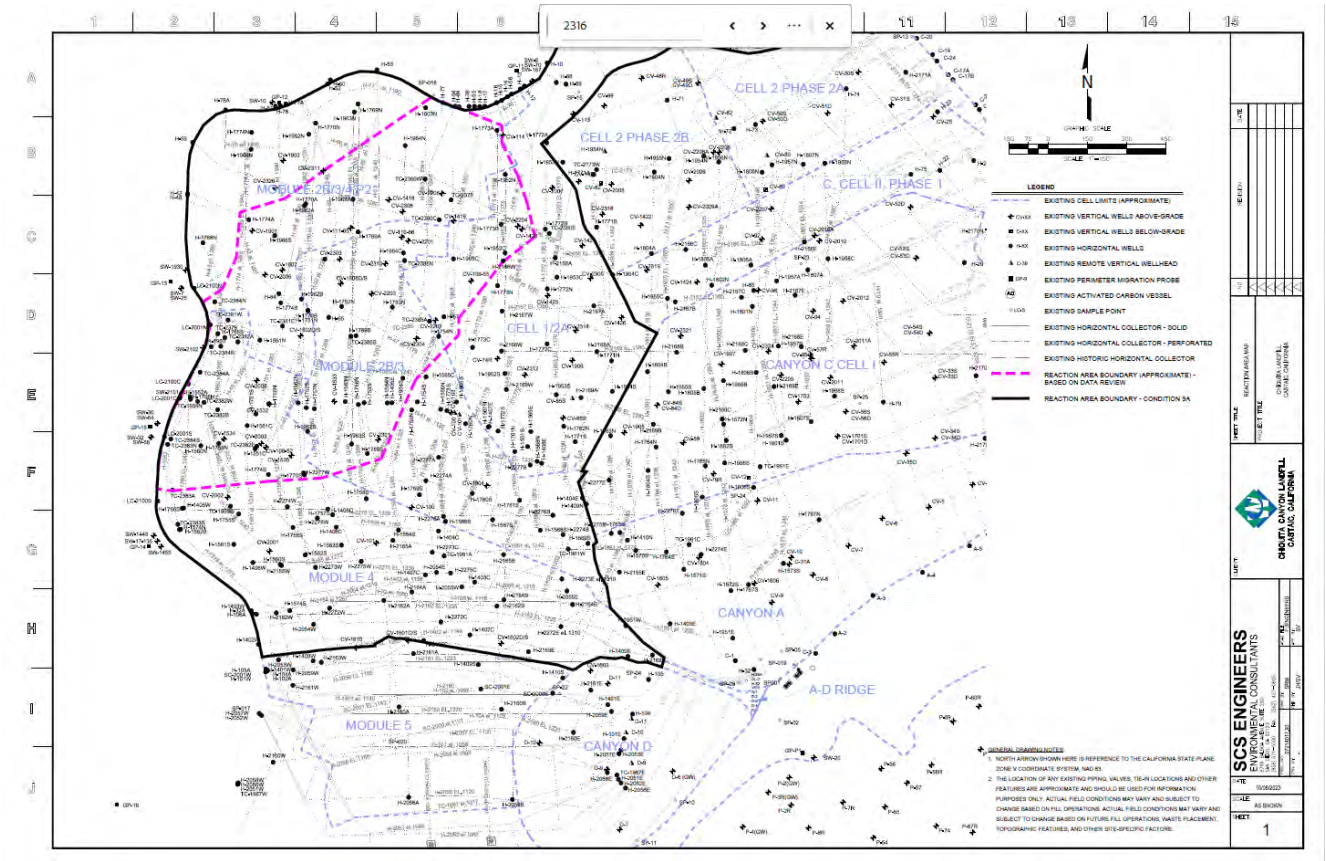

Figure 2. The reaction area is shown as pink dashed lines, September 15, 2023.

CCL Response and Discussions

Based on the site visit and the additional information provided in the CCL comment letter dated October 20, 2023, CalRecycle staff offer the following comments and recommendations.

I. Cause Analysis

Before 2014, the waste industry generally defined an elevated temperate landfill ("ETLF") event if a temperature greater than 131°F was observed at the wellhead, whether or not the site had accepted reactive industrial waste. Post 2014, a new definition for an ETLF was developed for Municipal Solid Waste (MSW) landfills to include temperatures above regulatory thresholds (i.e., 131 or 145 °F) due to abnormal chemical reactions within the waste mass that have not experienced a fire. Around 2015, multiple ETLF studies were carried out through the waste industry research foundation, Environmental Research and Education Foundation (EREF). The research group first proposed that ETLF events were a function of landfill depth. The hypothesis was that an ETLF was a function of the ideal gas law (i.e., PV = nRT) and that the waste at depth experienced higher temperatures because of pressure from the waste above. This hypothesis was disproved using temperature profiles from temperature monitoring

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Based on discussions with the landfill staff and a review of the 48 new boring logs, no reactive industrial waste was discovered in the reaction area. This result is expected since it would be remarkable that CCL accepted an unknown reactive industrial waste in an area over 35 acres in Cell 1/2A, Module 2B/3, Module 2B/3/4 P2, and Module 4.

II. CalRecycle's Recommendations 1 to 15 (Note: only 2, 8, 9, 13 are discussed further)

Regarding the previous set of recommendations presented to the LEA in our October 16, 2023, letter, we have the following changes and additions:

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of landfill gas while reducing oxygen infiltration. However, a soil cover can be implemented within weeks to reduce the exceptionally high concentrations of surface emissions and leachate seeps. Quickly implementing soil cover will reduce odors and impact the community. The FML can be installed at a later date to reduce odors further. The current intermediate cover should not be viewed as adequate to minimize odors.

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Additional Comment: It is recommended that all known liquids and soils/sludge from the reaction area be appropriately characterized. With temperatures documented over 200°F in the reaction area, all leachate and sludge should be tested in addition to the current leachate testing program. CCL should not assume the leachate at the sumps or on the liner is the same as the leachate from the reaction area. At least ten direct leachate samples from the highest temperature wells with pumps should be collected to ensure the leachate is not chemically different from the leachate as the outbreaks or at the leachate collection sumps. The samples should follow state and federal hazardous waste regulations for ignitable, corrosive, reactive, and toxic substances. The transporters and facilities receiving the leachate for processing and disposal must be aware of the chemical composition of the leachate and sludge. CCL should provide a list of facilities that have and are currently receiving the leachate from the reaction area. CalRecycle encourages LEA and CCL staff to work closely with staff from the SCAQMD and the Los Angeles Regional Water Quality Control Board (RWQCB).

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Additional Comment: While CalRecycle agrees that temperature monitoring devices should not be installed where leachate is under pressure, temperature devices in other locations are necessary to determine the intensity, depth, and direction of the reaction. Temperature devices are the primary method to track the reaction's progression accurately. Table 1 is provided as an initial recommendation for the location of temperature probes. The proposed temperature probe locations include sixteen assessments and six sentry temperature probes. This design would allow the CCL to track the reaction spatially and provide a decision matrix to develop a plan to contain the incident and prevent it from moving east and south.

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Recommendation #13: Consider installing remote telemetry technology to continuously collect and analyze landfill gas data at the collection wells.

Additional Comment: CalRecycle agrees that wells with significant leachate issues, high temperatures, pressure, or material viability issues are unsuitable for telematic technology. CalRecycle recommends outfitting all temperature probes with remote telemetry technology to track the reaction.

Further Recommendations

Based on my site visit and discussions, CalRecycle staff recommend the LEA consider working with CCL and the other regulatory agencies toward implementing these additional actions:

1. CCL should develop a written plan that tracks the fissures, settlement, and tension cracks in the soil cover, marking the location and documenting the length and severity.
2. Given the prior slope instability on the western slope near the leachate outbreak, CCL should perform a slope stability analysis in this area, as saturated waste has very low shear strength.
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Attachment A contains several photos from the site visit on November 2, 2023. Please do not hesitate to contact me by telephone at (916) 341-6356 or by email at Todd.Thalhamer@Calrecycle.ca.gov if you have comments or questions.

Sincerely,

Todd Thalhamer, P.E.
Senior Waste Management Engineer
CalRecycle

Cc: Shikari Nakagawa-Ota, Los Angeles County Department of Public Health (sota@ph.lacounty.gov)
Wes Mindermann, CalRecycle (wes.mindermann@calrecycle.ca.gov)
Jannelle Heinzler, CalRecycle (janelle.heinzler@calrecycle.ca.gov)
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Jack Cheng, South Coast Air Quality Management Board (jcheng@aqmd.gov)
Larry Israel, South Coast Air Quality Management Board (lisrael@aqmd.gov)
Douglas Cross, Los Angeles Regional Water Quality Control Board, (dcross@waterboards.ca.gov)
Katherine Butler, Department of Toxic Substances Control (Katherine.Butler@dtsc.ca.gov)

Attachment A
Photo Log
CCL Site Visit, November 2, 2023

Photo 1. Location of northern leachate outbreak, CCL November 2, 2023.

Photo 2. Gas well CV-2201 at CCL, November 2, 2023.

Photo 3. Location of western leachate outbreak, CCL November 2, 2023.

Photo 4. Location of western leachate outbreak, CCL November 2, 2023.

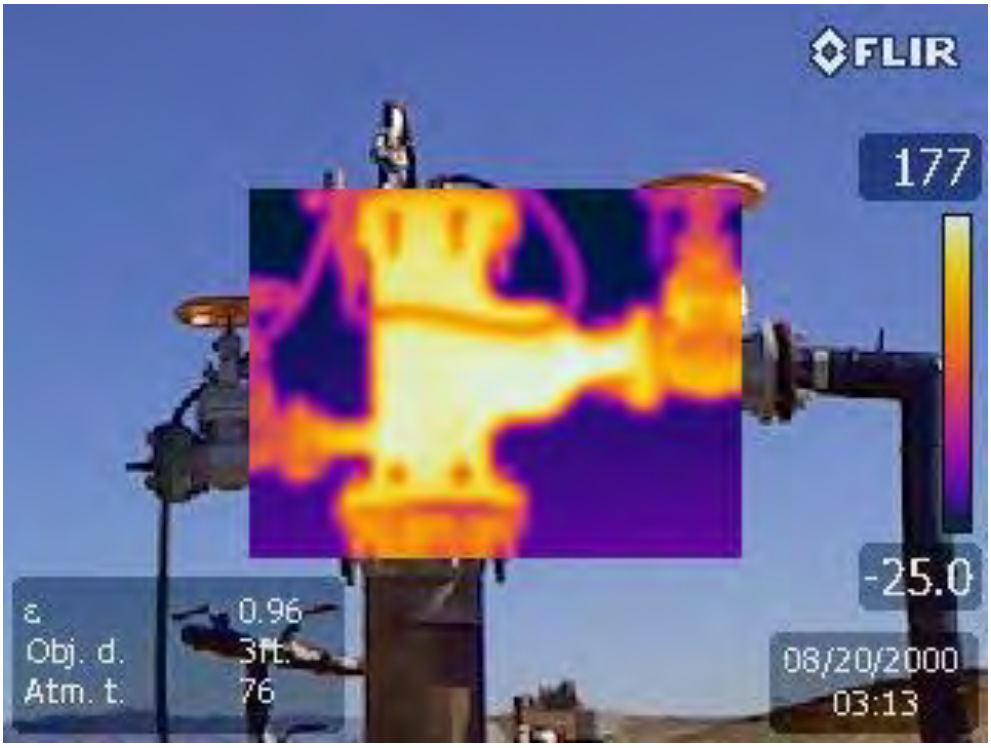
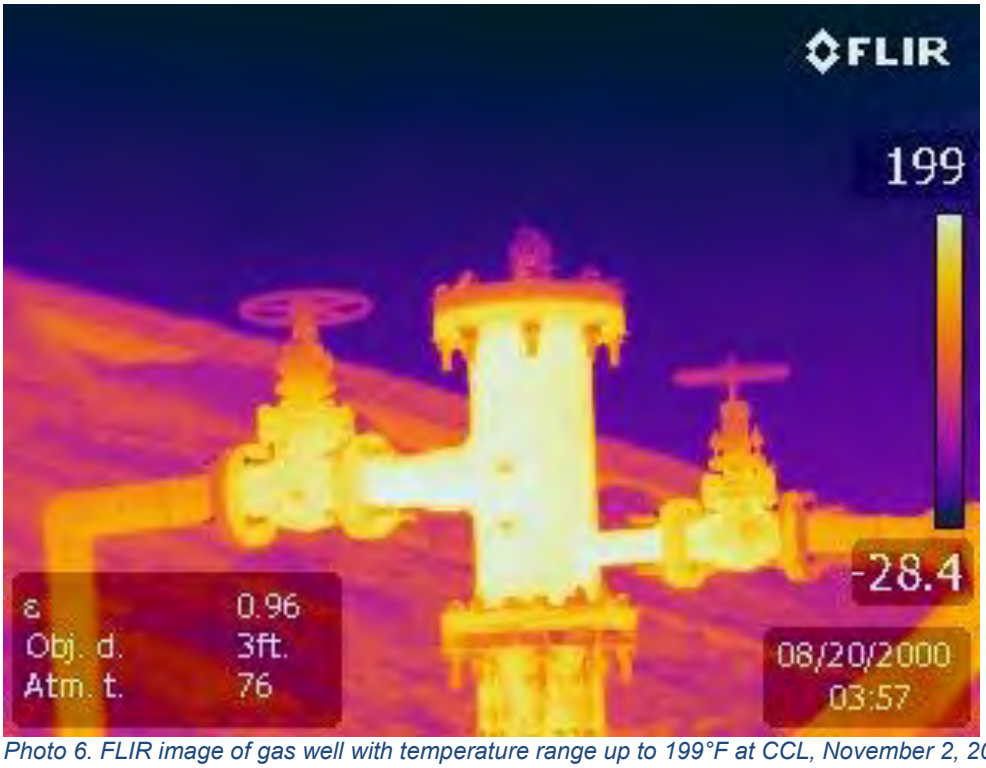


Photo 5. FLIR image of gas well with temperature range up to 177°F at CCL, November 2, 2023.



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November 14, 2023

Ms. Karen Gork, MPH, REHS
Chief Environmental Health Specialist
Solid Waste Management Inspection and Enforcement Program
Los Angeles County Department of Public Health – Environmental Health
5050 Commerce Drive
Baldwin Park, California 91706

Subject: Review Chiquita Canyon Landfill (19-AA-0052) Response Letter

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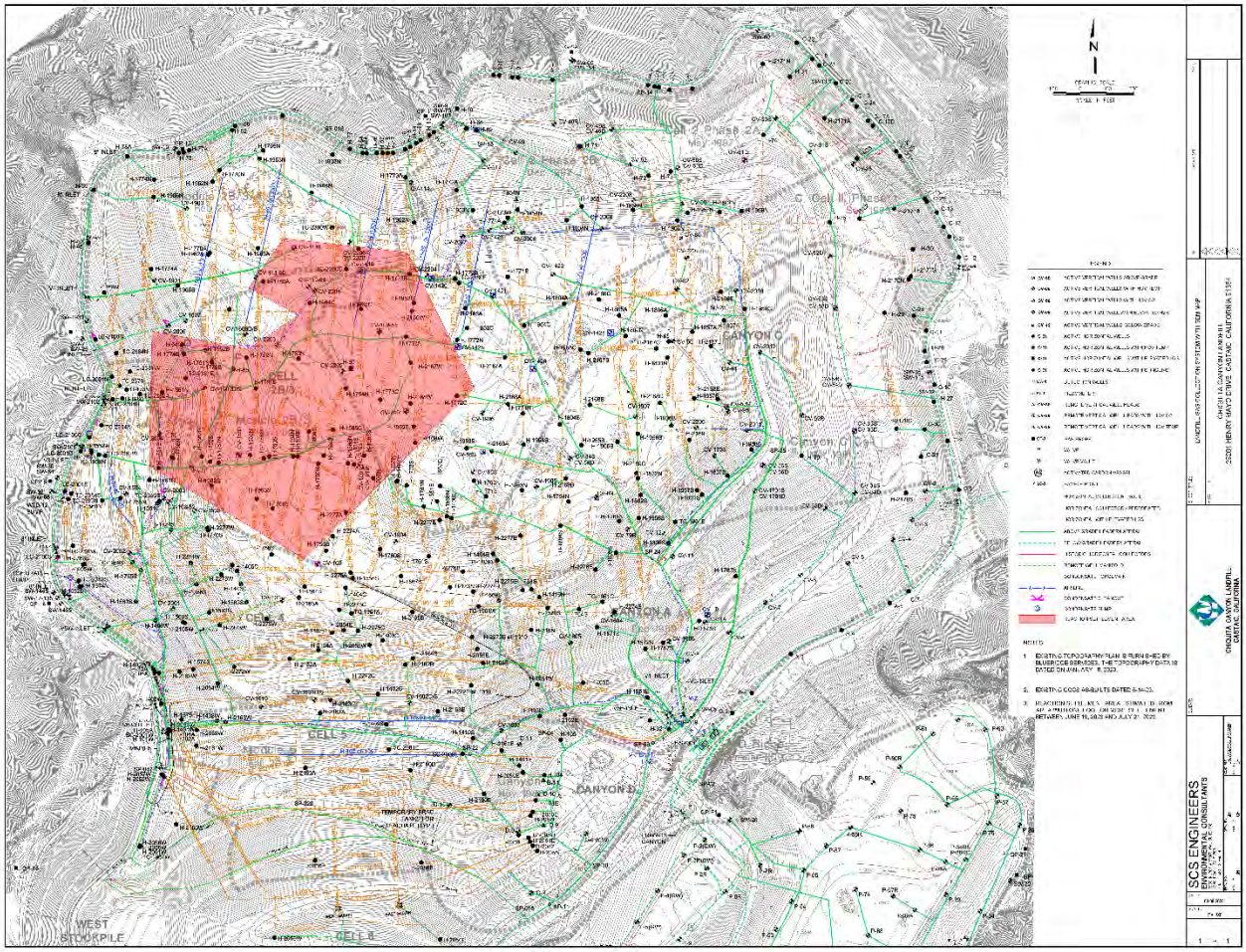

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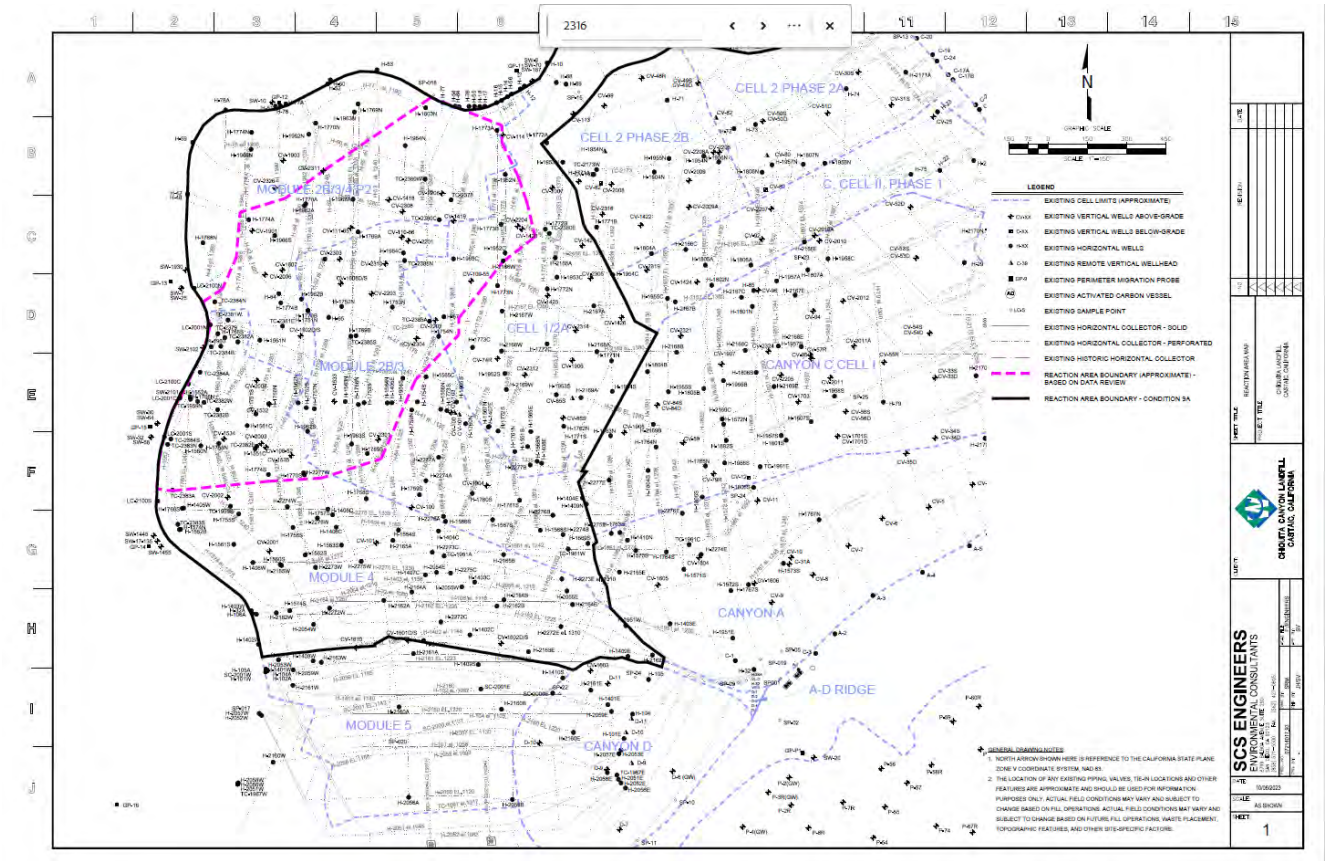

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3. CCL should collect temperatures in and around the reaction area to ensure all infrastructure improvements meet manufacturer maximum temperature design specifications and/or recommendations.
4. CCL should develop a reaction break plan and propose a set of criteria (e.g., what temperature at which temperature probes) that would require the CCL to install a soil barrier between the reaction and operational areas. The plan should propose the depth, width, and location of the containment trench (wall) based on temperature readings collected by the temperature probe network.

Attachment A contains several photos from the site visit on November 2, 2023. Please do not hesitate to contact me by telephone at (916) 341-6356 or by email at Todd.Thalhamer@Calrecycle.ca.gov if you have comments or questions.

Sincerely,

Todd Thalhamer, P.E.
Senior Waste Management Engineer
CalRecycle

Cc: Shikari Nakagawa-Ota, Los Angeles County Department of Public Health (sota@ph.lacounty.gov)
Wes Mindermann, CalRecycle (wes.mindermann@calrecycle.ca.gov)
Jannelle Heinzler, CalRecycle (janelle.heinzler@calrecycle.ca.gov)
Jeff Lindberg California Air Recourses Board (jeff.lindberg@arb.ca.gov)
Vanessa Aguila, California Air Resources Board (vanessa.aguila@arb.ca.gov)
Jack Cheng, South Coast Air Quality Management Board (jcheng@aqmd.gov)
Larry Israel, South Coast Air Quality Management Board (lisrael@aqmd.gov)
Douglas Cross, Los Angeles Regional Water Quality Control Board, (dcross@waterboards.ca.gov)
Katherine Butler, Department of Toxic Substances Control (Katherine.Butler@dtsc.ca.gov)

Attachment A
Photo Log
CCL Site Visit, November 2, 2023

Photo 1. Location of northern leachate outbreak, CCL November 2, 2023.

Photo 2. Gas well CV-2201 at CCL, November 2, 2023.

Photo 3. Location of western leachate outbreak, CCL November 2, 2023.

Photo 4. Location of western leachate outbreak, CCL November 2, 2023.

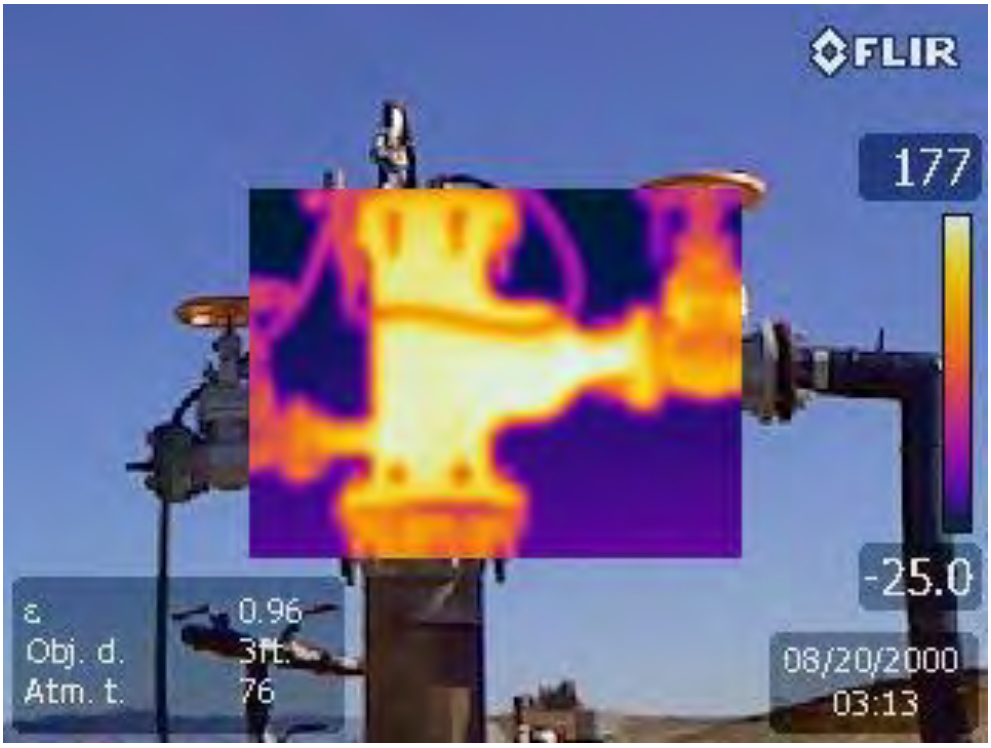

Photo 5. FLIR image of gas well with temperature range up to 177°F at CCL, November 2, 2023.

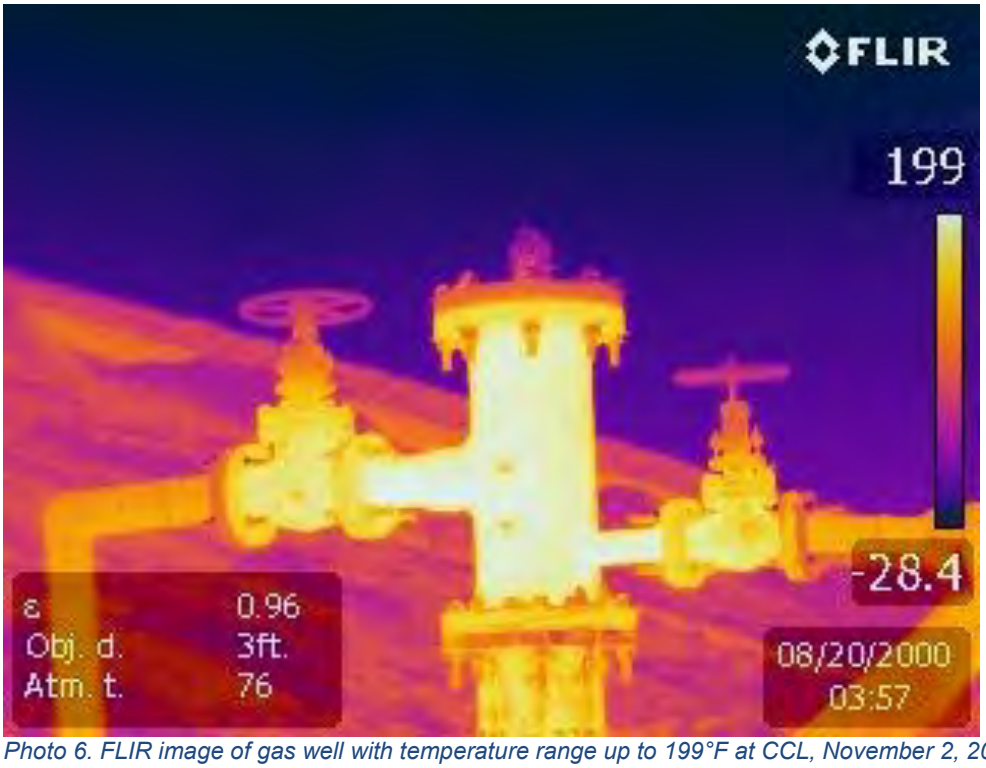

Photo 6. FLIR image of gas well with temperature range up to 199°F at CCL, November 2, 2023

California Environmental Protection Agency

Gavin Newsom
California Governor

Yana Garcia
Secretary for Environmental Protection

Zoe Heller
CalRecycle Director

Department of
Resources Recycling and Recovery

CERTIFIED MAIL# 7015 0920 0001 7862 9917

May 15, 2024

Nicole Ward, Assistant District Manager
Chiquita Canyon Landfill
Waste Connections
29201 Henry Mayo Drive
Castaic, CA 91384

SUBJECT: Inclusion of the Chiquita Canyon Landfill, Facility No. 19-AA-0052, on the Inventory of Solid Waste Facilities Which Violate State Minimum Standards

Dear Ms. Nicole Ward:

On February 8, 2024, Department of Resources Recycling and Recovery (CalRecycle) staff sent you a Notice of Intent (NOI) letter to include Chiquita Canyon Landfill, Facility No. 19-AA-0052, on the Inventory of Solid Waste Facilities Which Violate State Minimum Standards (Inventory). It was stated that if the violation listed in the NOI was not corrected within 90 days of receiving the NOI, the facility would be included on the Inventory. The 90 days expired on May 10, 2024. After your Local Enforcement Agency's (LEA) May 14, 2024, inspection, the LEA reported to CalRecycle that the violations of State Minimum Standards (SMS) cited in the NOI, have not been corrected.

YOU ARE HEREBY NOTIFIED THAT THE CHIQUITA CANYON LANDFILL, FACILITY NO. 19-AA-0052, HAS BEEN INCLUDED ON THE INVENTORY PURSUANT TO PUBLIC RESOURCES CODE SECTION 44104 FOR THE FOLLOWING STATE MINIMUM STANDARDS VIOLATIONS:

- **Title 27, California Code of Regulations, Section 20921 – Gas Monitoring and Control**
- **Title 27, California Code of Regulations, Section 20750 – Site Maintenance**

Any design or operational changes associated with correcting this violation of SMS is not sanctioned until incorporated into a revised solid waste facility permit concurred in by CalRecycle and issued by the LEA, or as part of a Report of Facility Information amendment where the LEA has made the necessary findings.

All facilities listed on the Inventory are required by statute to be under a compliance schedule, issued by the LEA, which ensures that diligent progress is being made to correct the violation. Title 14 of the California Code of Regulations section 18365 requires the LEA to issue the compliance schedule within 15 business days from the date of the inclusion letter.

The LEA will continue to inspect your facility and provide written documentation (inspection reports) regarding the compliance status of the facility with respect to it being included on Inventory. If the violation is corrected to the satisfaction of the LEA and documented by the LEA in at least one inspection report, you will be notified that the facility has been removed from the Inventory. Otherwise, the facility will remain on the Inventory as long as the violation continues to be cited.

If you have any questions regarding this action, please contact Ivan Palenyy of my staff at (916) 341-6187 or me at (916) 341-6403.

Sincerely,

Catherine Blair, Section Manager
Solid Waste Enforcement Section
Waste Evaluation and Enforcement Branch
Waste Permitting, Compliance and Mitigation Division

cc:

Karen Gork, Chief Environmental Health Specialist
kgork@ph.lacounty.gov

Dee Hanson-Lugo, Chief Environmental Health Specialist
dlugo@ph.lacounty.gov

Felicia Truong, Los Angeles County LEA Supervisor
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Nai Teurn, CalRecycle Permitting and Assistance Branch
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Eric Morofuji, Los Angeles County LEA Supervisor
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Daniel Dela Cruz, Los Angeles County LEA
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California Environmental Protection Agency

Gavin Newsom
California Governor

Yana Garcia
Secretary for Environmental Protection

Department of Resources Recycling and Recovery

Rachel Machi Wagoner
CalRecycle Director

CERTIFIED MAIL: 7022 0410 0001 9245 3541

February 8, 2024

Nicole Ward, Assistant District Manager
Chiquita Canyon Landfill
Waste Connections
29201 Henry Mayo Drive
Castaic, CA 91384

SUBJECT: Notice of Intent to Include Chiquita Canyon Landfill, Facility No. 19-AA-0052, on the Inventory of Solid Waste Facilities Which Violate State Minimum Standards

Dear Ms. Ward:

A review of the monthly Enforcement Agency (EA) inspection reports of September 19, October 25, November 28, December 19, 2023, and January 17, 2024, respectively, for the Chiquita Canyon Landfill indicate that the following State Minimum Standards have been violated during that period:

- **Title 27, California Code of Regulations, Section 20921 – Gas Monitoring and Control**
- **Title 27, California Code of Regulations, Section 20750 – Site Maintenance**

The Department of Resources Recycling and Recovery (CalRecycle) is required to place on the Inventory of Solid Waste Facilities Which Violate State Minimum Standards (Inventory) facilities that have repeat violations of standards. California Code of Regulations Article 5.1 Title 14 outlines the inventory process.

CALRECYCLE STAFF IS PROPOSING TO INCLUDE THE CHIQUITA CANYON LANDFILL, FACILITY NO. 19-AA-0052, ON THE INVENTORY PURSUANT TO PUBLIC RESOURCES CODE SECTION 44104 FOR REPEAT VIOLATIONS OF THE ABOVE STATE MINIMUM STANDARDS.

The LEA will continue to inspect the facility on a monthly basis and will also provide written documentation (inspection reports) regarding the compliance status of your facility with respect to the standards cited above. If the violations are corrected and documented on an inspection report within 90 days of receipt of this notice, the facility will not be included on the Inventory.

If you have any questions regarding this action, please contact Eric Tanner at (916) 341-6181 or Catherine Blair at (916) 341-6803.

Sincerely,

Catherine Blair, Manager
Solid Waste Enforcement Section
Waste Evaluation and Enforcement Branch
California Department of Recourses Recycling and Recovery

cc:

Karen Gork, Chief Environmental Health Specialist
kgork@ph.lacounty.gov

Dee Hanson-Lugo, Chief Environmental Health Specialist
dlugo@ph.lacounty.gov

Felicia Truong, Los Angeles County LEA Supervisor
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Benjamin Escotto, CalRecycle Permitting and Assistance Branch Supervisor
benjamin.escotto@calrecycle.ca.gov

Daniel Dela Cruz, Los Angeles County LEA
ddelacruz@ph.lacounty.gov

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
SOLID WASTE MANAGEMENT PROGRAM
ACTING AS THE LOCAL ENFORCEMENT AGENCY (LEA)
5050 COMMERCE DRIVE, BALDWIN PARK, CA 91706

IN THE MATTER OF:

CHIQUITA CANYON SANITARY LANDFILL
29201 HENRY MAYO DRIVE
CASTAIC, CA 91384
APN: 3271-002-011, 3271-002-013, 3271-002-019, 3271-002-036, 3271-002-039, 3271-005-034
SWIS# 19-AA-0052

OWNER/OPERATOR
CHIQUITA CANYON, LLC (RESPONDENT)
29201 HENRY MAYO DRIVE
CASTAIC, CA 91384

BY CERTIFIED MAIL AND ELECTRONIC COPY

CERTIFIED MAIL: 91 7199 9991 7037 9753 6218

COMPLIANCE ORDER

PUBLIC RESOURCES CODE SECTIONS 43209, 44106, 45000, 45005, 45011, 45014, 45017, 45023; TITLE 27 OF THE CALIFORNIA CODE OF REGULATIONS (27 CCR), SECTIONS, 20750, AND 20921; AND TITLE 14 OF THE CALIFORNIA CODE OF REGULATIONS (14 CCR), SECTIONS 18304 AND 18304.1, 18304.3, 18365

DATE: June 6, 2024

TO: CHIQUITA CANYON, LLC

YOU ARE HEREBY ORDERED TO:
TAKE ALL ACTIONS AND ABIDE BY ALL OTHER ORDERS CONTAINED HEREIN AT THE CHIQUITA CANYON LANDFILL EFFECTIVE IMMEDIATELY.

1.0 PLEASE TAKE NOTICE:

1.1 The Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), is authorized by Division 30 of the

Public Resources Code (PRC), §§ 43209 and 45000, and Title 14 of the California Code of Regulations (14 CCR), to enforce applicable solid waste regulations within the County of Los Angeles; and,

1.2 Division 30 Part 5 of the PRC and 14 CCR §§ 18304 and 18304.1 authorize the LEA to issue enforcement orders for violations of the PRC and regulations adopted pursuant to Division 30 of the PRC; and

1.3 Chiquita Canyon Sanitary Landfill (Site) is a permitted sanitary landfill located on parcel APNs 3271-002-011, -013, -019, -036, -039, and 3271-005-034 with an address of 29201 Henry Mayo Drive, Castaic, California, 91384, in the County of Los Angeles, and identified by Solid Waste Information System (SWIS) No. 19-AA-0052; and

1.4 Respondent, Chiquita Canyon, LLC, (CCL), is the operator and Responsible Party (RP) for noncompliance with state minimum standards. Specifically, 27 CCR, Sections 20921 and 20750 have been noted monthly on LEA inspection reports to date beginning September 1, 2023, and November 28, 2023, respectively, and are described in the paragraphs below.

2.0 STATMENT OF FACTS PERTAINING TO 27 CCR SECTION 20750:

2.1 On August 10, 2023, the LEA requested the California Department of Resources, Recycling and Recovery (CalRecycle) to provide technical expertise and assistance in determining root cause and mitigation strategies for multiple issues identified at the Site by the LEA and other regulatory agencies, such as elevated well temperatures, increased landfill gas (LFG) emissions (odor), and unusual landfill settlement.[1]

[1] CalRecycle provides comments to the LEA as assistance to support the program carrying out its responsibilities on permitted disposal sites. The final determination as to the comments provided to the responsible party is within the sole purview of the LEA, acting within the parameters of its discretion, in accordance with its vested authority under its certification as defined in 14 CCR, Division 7, 27 CCR, Division 2, Subdivision 1 (Section 20005 et seq.), and Division 30 of the PRC.

2.2 CalRecycle issued a letter dated October 16, 2023 (October 16, 2023 CalRecycle Letter) to the LEA containing its review of the conditions that are causing the issues at the Site. CalRecycle conducted a comprehensive review of 18 months of Site records, and LFG data in the impacted area and around the general vicinity of the impacted area. The review focused on the Site's carbon monoxide concentrations, recent LFG temperatures, LFG control system operation, and other operational factors. The review determined that the Site sustained conditions over the past 18 months that include, but are not limited, to:

- Cover integrity issues;
- Increased temperatures and pressures in the LFG control systems and waste mass;
- Unusual landfill settlement;
- A heating/smoldering event that is expanding in size and intensity.

2.3 CalRecycle concluded that "conditions at CCL are causing additional pressure, odors, elevated leachate temperatures, and damage to the gas extraction system." To reduce the odors and better define the reaction, CalRecycle recommended 15 mitigation actions as part of the review.

2.4 On October 17, 2023, the LEA issued a letter (October 17, 2023 LEA Letter) requesting that CCL provide a written response and timeline to address the recent conditions sustained by CCL in the prior 18 months and the 15 recommended corrective and mitigation actions from the October 16, 2023 CalRecycle Letter by October 20, 2023.

2.5 CCL responded on October 20, 2023 (October 20, 2023 CCL Response) as instructed by the LEA. CCL addressed the 15 recommended mitigation actions, many of which according to CCL, were included in the South Coast Air Quality Management District's (SCAQMD) Stipulated Order for Abatement (SOFA).

2.6 The LEA requested CalRecycle' s technical review of the October 20, 2023 CCL Response. As part of the review, CalRecycle visited the Site on November 2, 2023. Staff from the LEA, SCAQMD, Los Angeles Regional Water Quality Control Board (LARWQCB), Department of Toxic Substances Control (DTSC), and the United States Environmental Protection Agency (USEPA) toured the Site with CCL staff.

2.7 On November 14, 2023, CalRecycle issued a letter (November 14, 2023 CalRecycle Letter) to the LEA based on the November 2, 2023 Site visit and the additional information provided in the October 20, 2023 CCL Response. CalRecycle' s letter provided a cause analysis, comments to CCL's response to recommended mitigation actions (2, 8, 9 and 13) and further recommendations. Regarding recommended mitigation action 2, CalRecycle concluded that the current intermediate cover should not be viewed as adequate to minimize odors.

2.8 On November 21, 2023, the LEA issued a letter (November 21, 2023 LEA Letter) requiring that CCL perform four mitigation measures (Mitigation Measure 1A, 1B, 2A, 2B, 3 and 4) recommended in the November 14, 2023 CalRecycle Letter and October 16, 2023 CalRecycle Letter. The LEA directed that CCL provide a written response by Wednesday, December 6, 2023, and submit the required plan, data, and report by the due dates indicated in the letter.

2.9 The four mitigation measures listed in the November 21, 2023 LEA Letter that are required to correct the violation of 27 CCR § 20750 are described below.

Mitigation Measure 1 A & 1B – Soil Reaction Break/Barrier

2.10 CCL must provide a plan to construct a soil reaction break/barrier at a predesignated area(s) if the reaction reaches a determined action line. The plan is due to the LEA for approval no later than two weeks after installing temperature monitoring devices.

A. Develop a soil reaction break/barrier plan and propose a set of criteria that would require CCL to install a soil reaction break/barrier between the reaction and operational areas of the landfill. (Mitigation Measure 1A)

B. To obtain necessary data to determine the action line, CCL needs to collect data regarding intensity, depth, speed and direction of the reaction. It is imperative that CCL installs temperature monitoring devices by January 8, 2024. (Mitigation Measure 1B)

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Mitigation Measure 2 A & 2B - Cover

2.11 Because of the ongoing reaction, the cover that is currently in place is not adequate and not performing to the standards to maintain the site in reasonable repair.

A. Place and compact a minimum cover of 24 inches of 1 x 10^{-6} low permeability soil in and around the reaction settlement area and any well showing signs of a reaction by December 14, 2023. (Mitigation Measure 2A)

B. Develop a written plan that includes documentation and tracking of the fissures, settlement and tension cracks in the soil cover for LEA review and approval by December 6, 2023. The written plan needs to include a photo log of the fissure location including length and severity. Upon LEA approval, CCL must submit a weekly report to the LEA by each Tuesday. (Mitigation Measure 2B)

Mitigation Measure 3 - Slope Stability Analysis

2.12 Given the prior slope instability on the western slope near the leachate outbreak, CCL shall perform a slope stability analysis in the same area for LEA review, as saturated waste has very low shear strength. Submit a workplan with a timeline for LEA review and approval by December 14, 2023.

Mitigation Measure 4 – Manufacturer Maximum Design Specifications

2.13 CCL needs to collect temperatures in and around the reaction area to meet the manufacturer's temperature design specification/recommendations to ensure that the French drain does not fail due to elevated temperature of the leachate soon after installation, leaving leachate seepage without control at the site. This additional step is necessary because of the ongoing reaction and to ensure that the public does not come into contact with leachate.

2.14 On November 28, 2023, the LEA conducted a periodic inspection that noted a violation of 27 CCR § 20750-Site Maintenance and referred to the November 21, 2023 LEA Letter's four mitigation measures as a means to assist with correcting the violation. The LEA periodic inspection reports dated November 28, December 19, 2023, January 17, February 7,

March 26, and April 30, 2024 have also noted the violation of 27 CCR § 20750. The violation noted on the report is described below.

> Pursuant to 27 CCR § 20750, the operator shall implement a preventative maintenance program to monitor and promptly repair or correct defective conditions with respect to requirements of the CIWMB [California Integrated Waste Management Board, currently CalRecycle] standards, and conditions established by the EA [Enforcement Agency (LEA)]. All other aspects of the disposal site shall be kept in a state of reasonable repair.
>
> Due to leachate outbreaks and stability issues with leachate saturated slope and waste, the issues with high temperatures, LFG collection, excessive leachate production, and unusual and large-scale settlement, the LEA required CCL to complete the following actions listed in the November 21, 2023 LEA Letter, as recommended by CalRecycle after the site inspection on November 2, 2023 and records review.

CCL's compliance status pertaining to 27 CCR § 20750 is subcategorized by mitigation measure and discussed below.

Mitigation Measure 1 A – Soil Reaction Break/Barrier Plan

2.15 On December 6, 2023, the LEA received a letter from CCL (December 6, 2023 CCL Response) in response to the November 21, 2023 LEA Letter. CCL responded to Mitigation Measure 1A by stating they would prepare a soil reaction break/barrier plan and propose a set of criteria that would require CCL to install the break/barrier by the LEA-provided deadline. CCL also stated that it does not believe that such a break/barrier is necessary or feasible, however, CCL did not provide any data to support CCL's belief.

2.16 On April 5, 2024, the LEA issued a letter to CCL (April 5, 2024 LEA Letter) stating the TMP and LFG collection well data, specifically carbon monoxide (CO) and hydrogen (H2) are imperative for determining an action line, in which, if the reaction reaches a predesignated criteria then it would trigger implementation of an approved Soil Reaction

Break/Barrier Plan. Directives 1 and 2 pertain to the installation of Mitigation Measure 1B and are discussed in the corresponding section. Directives 3 through 6 apply to the Soil Reaction Break/Barrier Plan (Mitigation Measure 1A) and are described below.

Directive 3: Provide waste photographs, boring logs and temperature logs to the LEA by April 12, 2024, for all LFG collection wells installed since June 2023.

Directive 4: Submit LFG data for all gas collection wells in the reaction area and wells 200 feet outside of the reaction area to the LEA by April 12, 2024.

Directive 5: Submit CO and H2 readings for all gas collection wells in the reaction area and wells 200 feet outside of the reaction area to establish a baseline using Method ASTM D1946 in summa cans by May 6, 2024.

Directive 6: Submit monthly CO and H2 data from a set of gas wells selected by the LEA after the baseline sampling is completed and recorded on a site map. Submit the lab data for all LFG data. Once a set of wells are selected, monthly LFG data shall be collected and submitted to the LEA, including a discussion of the LFG data and graphic showing CO and H2 trends over time.

2.17 The April 5, 2024 LEA Letter provided a new deadline to submit the Soil Reaction Break/Barrier Plan, at least 10 days after gathering all the necessary data, rather than two weeks after the installation of the TMPs as per the November 21, 2023 LEA Letter. Lastly, the letter also stated that as an alternative option, CCL may submit a study to the LEA to assure the reaction is no longer a concern to public health, safety and the environment, if CCL chose to do so.

2.18 On April 12, 2024, the LEA received a response from CCL (April 12, 2024 CCL Response) to Directive 3 and 4 of the April 5, 2024 LEA Letter, and a Soil Reaction Break/Barrier Plan dated March 27, 2024 (March 27, 2024 Plan). The April 12, 2024 CCL Response is pending LEA review.

2.19 The LEA determined that the March 27, 2024 Plan was deficient and did not adequately address Mitigation Measure 1A requirements as described in the November 21, 2023 LEA Letter and the April 5, 2023 LEA Letter, and it was therefore rejected by the LEA in a

letter dated May 3, 2024 (May 3, 2024 LEA Letter).

2.20 Prior to issuance of the May 3, 2024 LEA Letter, the LEA held a virtual meeting with CCL and CalRecycle on April 23, 2024, to discuss the need for a revised plan from CCL to adequately address the construction of a soil reaction break/barrier. The *CCL Barrier Discussion* presentation and *Isolation Break Criteria Example* document presented by CalRecycle at the meeting were provided to CCL via email on the same day.

2.21 As per the May 3, 2024 LEA Letter, CCL is required to submit a revised Soil Reaction Break/Barrier Plan to the LEA for review and approval within 10 days after gathering necessary data from the TMPs and LFG collection wells (refer to the April 5, 2024 LEA Letter). The data from the TMPs and LFG collection wells should be used to draft the revised plan and address the following:

1. Installation of an air/soil break that separates the waste with either an inert material or air.

2. Investigate how each cell or phase was constructed and examine if soil breaks between cells/phases can be exploited. The investigation should include a review of where haul roads were constructed to determine if the inert roads can also be used as fuel breaks. Information from the investigation should be used to develop where containment breaks should be placed.

3. Propose a set of criteria for the primary and secondary engagement lines and the type of reaction breaks/barriers and/or mitigations. These criteria shall be based on temperature, CO, and possibly settlement rate. The primary engagement lines should be designed to prevent the reaction from spreading into the main fill which is close to the reaction. The secondary line should prevent the reaction from entering the eastern and southern fill areas at the toe of the slope.

4. Construction of reaction breaks in the main 160-acre fill area for the reaction of the engagement lines. The reaction break plans should include timelines and method of construction. The timelines and engagement lines should match.

5. Include the construction of reaction breaks/barrier between Canyon C, A, D, and Cell 5 in the event the reaction reaches the secondary engagement lines.

6. Use best available technology, such as grout injection, to slow or contain reaction movement to the south and east.

7. Description of the criteria that will mandate the temporary suspension of placing new waste.

CCL may submit an alternative plan to the LEA for review, only if such plan is adequately supported by substantive data and studies and provides assurances to the LEA that the reaction is no longer a threat to public health, safety and the environment.

2.22 On May 8, 2024, the LEA received the CO and H2 data (May 8, 2024 Data) in response to Directive 5 of the April 5, 2024 LEA Letter which required CCL to submit CO and H2 readings for all gas collection wells in the reaction area and wells 200 feet outside the reaction area by May 6, 2024.

2.23 On May 28, 2024, the LEA issued a response to CCL (May 28, 2024 LEA Letter) stating that the May 8, 2024 Data submittal is inadequate due to missing information. CCL was directed to resubmit the data as a standalone report with the gas data presented in a table, a summary of the sampling, including a map showing the reaction area as it is currently defined, description of the gas sampling performed, Quality Assurance/Quality Control (QA/QC) data (e.g., field and laboratory QA/QC samples and data including any flags), and proposed holding times, etc., with the signature of qualified person or licensed engineer by June 6, 2024.

Mitigation Measure 1B – Temperature Monitoring Probes

2.24 In the December 6, 2023 CCL Response to the November 21, 2023 LEA Letter, CCL

agreed to install TMPs with a request for further clarification from the LEA on this requirement.

2.25 In order to collect data regarding intensity, depth, speed and direction of the reaction, the LEA required CCL to install TMPs. The November 21, 2023 LEA Letter provided recommended locations for the installation of 21 TMPs by January 8, 2024.

2.26 On December 6, 2023, the LEA, CalRecycle and CCL staff met to discuss TMPs per CCL's December 1, 2023 email request. CCL requested further clarification regarding probe locations, probe depths, and probe type.

2.27 On December 20, 2023, the LEA received the Landfill Reaction Area Temperature Monitoring Plan (December 20, 2023 Plan) from CCL for the installation of 20 TMPs and notification that the deadline of January 8, 2024 was not attainable. CCL proposed a new deadline of March 2024 to complete the installation based on availability of the materials, equipment, and the contractor.

2.28 On December 22, 2023, the LEA issued a letter (December 22, 2023 LEA Letter) accepting with conditions the December 20, 2023 Plan with conditions. Conditions included the submittal of design specifications and a typical design detail drawing of the TMPs, with specified probe depths, by February 15, 2024.

2.29 On January 2, 2024, the LEA received a letter from CCL (January 2, 2024 CCL Letter) with design specifications and design detail drawings for the TMPs. CCL agreed to meet the February 15, 2024 deadline, barring weather, material deliveries, health and safety, and permitting delays. CCL confirmed they would provide the LEA with weekly updates on the status of material deliveries and installation schedule.

2.30 On January 10, 2024 a virtual meeting was held between the CCL, the LEA and CalRecycle for a technical discussion. The LEA directed CCL to submit revised design specifications and design detail drawings for the TMPs to include the required depth intervals.

2.31 On January 17, 2024, the LEA received a letter from CCL (January 17, 2024 CCL Letter) with a revised design specification and design detail drawings and depth intervals for the TMPs that were discussed during the January 10, 2024 meeting.

2.32 On January 19, 2024, CCL, the LEA, and CalRecycle met and discussed the telemetry system that will be used to record temperature data.

2.33 On January 29, 2024, the LEA issued a letter (January 29, 2024 LEA Letter) accepting the revised design specification and design detailed drawings for the TMPs. The LEA approved the latest schedule to install the TMPs by February 29, 2024 based on the January 11, 2024 weekly update from CCL regarding the material deliveries and revised installation schedule. In addition, as per the meeting on January 19, 2024, the LEA specified due date of February 8, 2024 for CCL to submit the specifications of the telemetry system that will be used to record temperature data.

2.34 On February 26, 2024, the LEA issued a letter to CCL (February 26, 2024 LEA Letter) regarding delays that CCL reported in the weekly status updates received through February 22, 2024. CCL stated that due to delays caused by rain events and for safety reasons, the completion time for drilling for TMP installation was estimated to be an additional 6-7 weeks. The LEA directed CCL to provide a written response by February 29, 2024 (current due date for completion of the TMP installation) that includes an updated construction schedule that details an accurate timeline for the installation of the TMPs, weekly goals for the installation, and what efforts and resources (such as additional equipment and workforce) are being implemented to expedite the work and meet the proposed timelines.

2.35 On February 29, 2024, the LEA received a response from CCL (February 29, 2024 CCL Letter) providing justification for delays and a new schedule for the installation of the TMPs. Due to weather conditions or related safety concerns, the anticipated completion date was extended from February 29, 2024 to April 4, 2024, weather permitting.

2.36 On March 4, 2024, the LEA, CalRecycle and CCL staff met virtually to discuss issues with TMP installation to planned depths. The LEA and CalRecycle advised that CCL should install to the depth allowable and focus on getting the TMPs installed so that CCL can begin gathering data. The LEA also pointed out a typographical error and the lack of an official time extension request in the February 29, 2024 CCL Letter.

2.37 On March 4, 2024, the LEA received a revised response letter (March 4, 2024 CCL Letter) officially requesting modification to the timeline for TMP installation and correcting the typographical error noted in para. 2.36.

2.38 March 20, 2024, the LEA issued an approval (March 20, 2024 LEA Approval) to the modified schedule (March 4, 2024 CCL Letter) and April 4, 2024 completion date for the installation of TMPs, and directed CCL to continue to provide weekly updates on the progress of the installation of TMPs including any delays due to rain events or other special occurrence that may affect the modified schedule.

2.39 On March 20, 2024, the LEA issued a letter to CCL (March 20, 2024 LEA Letter) in response to a weekly update from CCL regarding the TMP installation received on March 14, 2024. The letter addressed the issues brought up by CCL that the well bores were saturated to the point that all five probes installed from March 11, 2024 through March 14, 2024 did not reach the proposed depth. The LEA determined that the adjustment to the remaining TMPs is necessary and required CCL to submit a report for the probe installation to the LEA by March 28, 2024 that would include: 1) an updated map showing the settlement area overlayed with the completed drilling locations, completed and proposed depths and remaining/planned drilling locations (if applicable), 2) drilling logs and 3) temperature logs of temperatures taken during drilling.

2.40 On March 28, 2024, LEA received the CCL report (March 28, 2024 Report) that stated the issues with achieving the proposed depths and a confirmation that sixteen (16) probes had been installed and were operational.

2.41 On April 5, 2024, the LEA issued a letter (April 5, 2024 LEA Letter) directing CCL to: 1) relocate the planned installation for well TP-16 to an area outside of the reaction where drilling to the proposed depth may be feasible, and 2) submit a final construction report within 5 days of completion of the installation of all TMPs.

2.42 On April 10, 2024 virtual meeting was held between CCL, LEA and CalRecycle to discuss the progress of TMPs installation, the relocation of TMP TP-16 and TP-04, and the need for a formal extension request with justification for not meeting the April 4, 2024 deadline to complete installation of TMPs.

2.43 On April 12, 2024, LEA received the CCL's response (April 12, 2024 CCL Response) that addressed the two directives related to TMPs in the April 5, 2024 LEA Letter as well as items discussed during the April 10, 2024 meeting. CCL confirmed that it would submit weekly memorandum with temperature readings and analysis of those readings along with a summary and temperature graph of all TMPs to plot the trends of each TMP once the final construction report was completed.

2.44 On April 16, 2024, LEA received a letter from CCL (April 16, 2024 CCL Letter) to memorialize the April 10, 2024 virtual meeting and to request a time extension for the installation of TMPs to April 26, 2024 with justification that drilling operations for TMP installation were delayed due to saturated soil conditions from frequent rain events over the past two months and safety related concerns.

2.45 On April 24, 2024, LEA issued a letter to CCL (April 24, 2024 LEA Letter) accepting CCL's proposed timelines for TMP installation.

2.46 On May 3, 2024, the LEA received the Final Construction Report, 2024 Temperature Monitoring Probe Installation (May 3, 2024 CQA Report) as per Directive 2 of the April 5, 2024 LEA Letter.

2.47 On May 29, 2024, the LEA issued a response letter to the CQA Report (May 29, 2024 LEA Response) directing CCL to resubmit a CQA to the LEA by June 6, 2024 with a site

map of the TMP's location, completion depth at each well, the reaction area as it is defined as of May 1, 2024, and a method (web-portal) for CCL to provide real-time access to temperature data to the LEA and CalRecycle. The temperature data included in the revised CQA Report was required to include the maximum weekly temperature recorded at each TMP, instead of or in addition to average weekly temperatures. Finally, the LEA advised that the revised CQA Report should include a signature and stamp of a licensed engineer to show all work can be clearly attributed to the licensee(s) in responsible charge of the work.

2.48 The May 29, 2024 LEA Response also addressed the weekly TMP reports and directed CCL to revise the weekly TMP reports with the weekly temperature readings to include graphs that show the maximum temperature recorded at each TMP instead of weekly average, as the criteria to implement a containment strategy must be based on maximum temperature readings and not an average temperature. The weekly TMP reports were also required to include the following additional details: a reaction map with the maximum observed temperature at each well with depth, a narrative describing any anomalies, outliers, data gaps, or malfunctions. The narrative must describe any temperature increases of 20°F or greater within 48 hours as stated in the April 5, 2024 LEA Letter and include an increase of 10°F in a week. The LEA advised that the weekly TMP reports should be a standalone document, and on the last weekly report for the month, CCL is directed to include a map that shows each TMP with color-coded observations based on the maximum observed temperature. CCL was required to submit revised weekly TMP reports beginning the week of June 2, 2024.

2.49 Additionally, the May 29, 2024 LEA Response specifically addressed the Weekly Cover Report dated May 14, 2024 that showed the reaction is extending south into areas outside the previously defined reaction area. To accurately track the reaction's progress, CCL was directed to install three specifically located temperature probes by June 12, 2024. CCL was reminded that while the settlement rate indicator is low, the reaction has advanced which

requires the development of a plan to implement a containment strategy (Mitigation Measure 1A Soil Reaction Break/Barrier Plan).

2.50 A meeting was held on May 31, 2024 to discuss the directive in the May 29, 2024 LEA Response to add three TMPs. CCL stated that the settlement was misinterpreted in the Weekly Cover Report due to construction taking place in the area that showed settlement. Furthermore, CCL stated that there are TMPs near the subject area, planned LFG well installation in that area, and data that supports the reaction area is not expanding. LEA instructed CCL to reply by June 12, 2024, with installation plan, an alternate proposal or justification for no action based on information shared in meeting.

Mitigation Measure 2A – Geosynthetic Cover

2.51 In the December 6, 2023 CCL Response to the November 21, 2023 LEA Letter, CCL noted several concerns regarding the placement of soil and stated that an alternative proposal would be submitted to the LEA by December 8, 2023.

2.52 On December 8, 2023, the LEA received a Memorandum from CCL (December 8, 2023 CCL Memorandum) responding to the November 21, 2023 LEA Letter regarding the Mitigation Measure 2A requirement. The December 8, 2023 CCL Memorandum provided a description and timeline for two specific proposed alternatives to the additional cover as well as for the 24-inches of low permeability soil cover in and around the Reaction Settlement Area and any well showing signs of reaction as required by Mitigation Measure 2A: 1) Low Permeability Soil Cover, 2) Evaporative Soil Cover or 3) 12-mil Dura-Skrim Geosynthetic Cover (12-mil Cover).

2.53 On December 14, 2023, the LEA issued a response (December 14, 2023 LEA Letter) to the December 8, 2023 CCL Memorandum. The LEA advised CCL that although the placement of low permeability soil would be the most effective option to address the inadequacy of the existing cover over the reaction area, as it would prevent surface emissions of LFG while

reducing oxygen infiltration. Because this option may take 12 weeks to implement which is the longest timeframe out of the three alternatives provided, it was no longer considered. Next, the proposed alternative to use an evaporative soil cover option using high permeability soil was deemed to be unacceptable as it would allow air, water, and LFG to migrate through the cover. CCL's proposed installation of the 12-mil Cover was the alternative that had the quickest installation timeline, within 5 weeks, and was an adequate option as a temporary measure to address cover conditions until the low permeability soil cover is added. Since the 12-mil Cover was not a long-term solution, CCL was required to install a more durable geosynthetic cover, 24-mil to 30-mil with welded seams, that will offer better performance and reduced maintenance. In short, the LEA recommended that CCL install the proposed 12-mil Cover now while it acquires low-permeability soil or opt to install a thicker and more durable geosynthetic cover between 24-mil to 30-mil with welded seams in lieu of the low permeability soil cover. A proposal for this option must be submitted to the LEA for review and approval.

2.54 On December 19, 2023 the LEA received a workplan from CCL (December 19, 2023 Plan) to install 30-mil high density polyethylene (HDPE) geosynthetic cover over the reaction settlement area.

2.55 On December 20, 2023, the LEA issued an approval (December 20, 2023 LEA Letter) on the condition that CCL submit the design specifications of the proposed geosynthetic cover pressure relief valves discussed in the December 19, 2023 Plan within 10 days.

2.56 On December 29, 2023, the LEA received a letter from CCL (December 29, 2023 CCL Letter) with the required information on the pressure relief valves.

2.57 On January 19, 2024, a meeting was held between CCL, LEA and CalRecycle to communicate that the pressure relief valves would not be approved by the LEA. Other methods to prevent potential LFG accumulation underneath the geosynthetic cover were discussed.

2.58 On January 23, 2024, the LEA received a letter from CCL (January 23, 2024

CCL Letter) which stated that CCL no longer intended to install the pressure relief valves from the December 19, 2023 Plan. In addition, CCL provided an updated installation schedule for the 30-mil cover in the following order: 1) northerly portion of the western slope of the reaction area, 2) central portion of the western slope of the reaction area, 3) top deck of the reaction area and 4) north slope of the reaction area. Although CCL did not provide a specific date, the letter stated that installation of the cover was anticipated to take 8 weeks with an additional week for reporting. Lastly, CCL informed the LEA that it anticipated installing well boot seals on all wells located outside of the areas that will be covered with geosynthetic cover by February 16, 2024, and installing the remaining well boot seals as the geosynthetic cover is installed.

2.59 On January 26, 2024, the LEA issued a conditional approval (January 26, 2024 LEA Letter) in response to the January 23, 2024 CCL Letter. Per the conditions, in lieu of the pressure relief valves, CCL was to provide a system and procedure to ensure that LFG does not accumulate underneath the geosynthetic cover and to prioritize LFG extraction from the reaction area over other areas of the landfill, if necessary, by February 2, 2024. In addition, CCL was directed to submit weekly updates to the LEA on the geosynthetic cover installation (Weekly Geosynthetic Cover Updates) commencing the week of January 28, 2024 and complete the geosynthetic cover installation by March 25, 2024 (8 weeks from the start of cover installations as provided by the January 23, 2024 CCL Letter).

2.60 On February 2, 2024, the LEA received a response from CCL (February 2, 2024 CCL Letter) that adequately addressed all of the conditions listed in the January 26, 2024 LEA Letter as stated in the LEA response letter dated March 4, 2024 (March 4, 2024 LEA Letter).

2.61 To address ongoing delays documented in CCL's Weekly Geosynthetic Cover Updates received through February 23, 2024, the LEA issued the February 26, 2024 LEA Letter. CCL had reported delays caused by rain events and related safety issues without providing an update on the need for a revised installation schedule for the 30-mil geosynthetic cover. LEA

instructed CCL to provide a written response by February 29, 2024 with an updated construction schedule that details an accurate timeline for the installation of the geosynthetic cover, weekly goals for the installation, and what efforts and resources (such as additional equipment and workforce) are being implemented to expedite the work and meet the proposed timeline.

2.62 The February 29, 2024 CCL Letter provided justification for delays and a new schedule for the installation of the geosynthetic cover. Due to weather conditions and related safety concerns, and an increase of the reaction area from 23.9 acres to 30 acres due to site conditions, the anticipated completion date was extended from March 25, 2024 to April 26, 2024, weather permitting. The submittal date for the completion report for the geosynthetic cover installation was consequently extended to May 3, 2024.

2.63 On March 4, 2024, LEA, CalRecycle and CCL staff met virtually and pointed out a typographical error with the compliance schedule and the lack of an official time extension request in the February 29, 2024 CCL Letter.

2.64 On March 4, 2024 CCL corrected the typographical error referred to in para. 2.63 and officially requested modification to the timeline for geosynthetic cover installation.

2.65 On March 20, 2024, the LEA issued an approval (March 20, 2024 LEA Letter) to the modified schedule and of the April 26, 2024 completion date for the installation of the 30-mil geosynthetic cover, and directed CCL to continue to provide weekly updates on the progress of the installation of the geosynthetic cover including any delays due to rain events or other special occurrence that may affect the modified schedule.

2.66 On April 19, 2024 the LEA received a memorandum from CCL (April 19, 2024 CCL Memorandum) that provided an updated geosynthetic coverage acreage, from 30 acres to 43.9 acres, and revised schedule for installation of the geosynthetic cover with, From April 26, 2024 to July 12, 2024. According to the memorandum, April 26, 2024 deadline could not be met due to

delays related to concerns with wet weather, high winds, slope stability, and safety. The July 12, 2024 completion date did not include the replacement of the 12-mil Cover that is currently over the western slope with the 30-mil geosynthetic cover due to high leachate levels.

2.67 On May 10, 2024, the LEA issued a letter to CCL (May 10, 2024 LEA Letter) directing CCL to resubmit a revised schedule by May 14, 2024, that prioritizes the installation of the 30-mil geosynthetic cover in the reaction area (30 acres per the March 4, 2024 CCL Letter) over additional areas that CCL elected to also cover, and include a completion date for installation of the cover over the 30 acres, and a plan to manage the leachate at the western slope to allow for timely installation of the 30-mil geosynthetic cover.

2.68 On May 14, 2024, the LEA received two memorandums from CCL. One memorandum provided additional information on the need for the extended deadline of July 12, 2024, to complete the installation of the 30 acres of geosynthetic cover over the reaction area (May 14, 2024 CCL Updated Schedule). The other memorandum detailed the construction of a toe drain system to manage the leachate and allow for the installation of geosynthetic cover over the portion of the western slope currently covered by the 12-mil Cover. (May 14, 2024 CCL Plan).

2.69 On May 29, 2024, the LEA issued a letter to CCL (May 29, 2024 LEA Letter) stating that the May 14, 2024 CCL Updated Schedule is adequate, and required CCL to continue to provide weekly updates on the progress of the installation of the geosynthetic cover that include specific reasons for any further delays that may be due to rain events or other special occurrence that may affect the extended implementation of the new schedule. Also, the LEA determined the May 14, 2024 CCL Plan to be adequate contingent on the condition that CCL confirms waste temperatures are below the manufacturer's recommended maximum temperature limit of the proposed materials used.

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Mitigation Measure 2B - Cover Tracking

2.70 The December 6, 2023 CCL Response to the November 21, 2023 LEA Letter had no comment on Mitigation Measure 2B requirements and agreed to submit the required plan by the due date.

2.71 On December 6, 2023, the LEA received the Soil Cover Tracking Written Plan (December 6, 2023 Cover Tracking Plan) to monitor for fissures and cracks in the soil cover, collect and compile notes and pictures, and submit Weekly Cover Reports to the LEA. To track and document settlement, CCL proposed to use drones to document settlement on a biweekly basis.

2.72 On December 14, 2023, the LEA issued a letter (December 14, 2023 LEA Letter) requiring CCL to revise the December 6, 2023 Cover Tracking Plan to include response to issues that may arise with the geosynthetic cover, such as tears and where fill is needed to support the liner or maintain drainage, the necessary actions taken, and a photo log that has before and after pictures of the cover issues.

2.73 LEA received the Revised Plan dated December 21, 2023 (December 21, 2023 Revised Plan) that included documentation and tracking of issues related to the geosynthetic cover in addition to soil cover as well as a photo log of observations with before and after pictures.

2.74 On January 3, 2024, the LEA issued an approval (January 3, 2024 LEA Letter) to the December 21, 2023 Revised Plan and directed CCL submit Weekly Cover Reports starting January 9, 2024.

2.75 The LEA letter dated March 22, 2024 (March 22, 2024 LEA Letter), responded to the Slope Stability Analysis Report (Mitigation Measure 3) and addressed the Weekly Cover Reports. The LEA directed CCL to revise the Weekly Cover Reports to include a log with a summary and a map to track the documented fissures and tension cracks and to identify trends, to evaluate the documented series of fissures and tension cracks reported in recent Weekly Cover

Reports from February and March 2024, and to include methods used to track the instability in the reaction area that is obscured by the geosynthetic cover.

2.76 On April 10, 2024, a virtual meeting was held between CCL, LEA and CalRecycle (April 10, 2024 Meeting) to discuss the status of Mitigation Measures 1-3 and the need for a second revision of the December 6, 2023 Cover Tracking Plan to address Mitigation Measure 2B. The LEA directed CCL to include in future weekly reports a section to document any instability events such as observations that led to CCL directing crews to cease work on the western slope mid-day March 20, 2024, because of concerns related to slope stability and pending the slope stability analysis report as per the March 22, 2022 Weekly Cover Report.

2.77 CCL submitted the second Revised Cover Tracking Plan dated April 16, 2024 (April 16, 2024 Revised Plan) that proposed to submit a map to identify and evaluate trends in the reported fissures and tension cracks. CCL proposed to perform daily visual inspections and bi-weekly drone flyovers, and other actions to track the instability of the reaction area obscured by the geosynthetic cover. In addition, CCL would include a profile of the western slope consisting of cross sections taken during the beginning and end of the month in the report.

2.78 On May 2, 2024, the LEA approved the second Revised Cover Tracking Plan (May 2, 2024 LEA Letter) and directed CCL to submit monthly reports starting May 14, 2024. The LEA also reminded CCL to include a section on stability issues as discussed during the April 10, 2024 Meeting.

2.79 The LEA issued a letter to CCL on May 29, 2024 (May 29, 2024 LEA Letter) to address, among other items, the Weekly Cover Reports dated May 10 and May 14, 2024, in which CCL made inaccurate statements that misrepresented the reason why the liner crews were removed from the western slope. The specific CCL statements were that “Landfill personnel were directed to cease normal activities on the western slope on or around March 20, 2024, because of the LEA’s concerns regarding the potential slope stability and related safety

concerns." The LEA noted that CCL elected to remove crews without notifying the LEA for at least 48 hours, when the LEA received the March 22, 2024 Weekly Cover Report. CCL was directed to amend each the May 10 and 14, 2024 reports to reflect that CCL elected to move the liner crews because the crews noticed an additional bulge of waste at the toe of the slope. In addition, CCL was required to include slope stability concerns to the Weekly Cover Reports beginning June 4, 2024.

Mitigation Measure 3 – Slope Analysis

2.80 The December 6, 2023 CCL Response to the November 21, 2023 LEA Letter had no comment on the Mitigation Measure 3 requirement and agreed to submit a work plan with timeline by the due date.

2.81 CCL submitted the Slope Stability Analysis Workplan to the LEA on December 14, 2023 (December 2023 Slope Stability Analysis Plan).

2.82 On December 20, 2023, the LEA issued a letter accepting the December 2023 Slope Stability Analysis Plan with conditions. According to a timeline submitted by CCL, a Slope Stability Analysis Report would be submitted to the LEA by February 22, 2024.

2.83 The Slope Stability Analysis Report was received by the LEA on February 22, 2024 (February 2024 Slope Stability Analysis Report).

2.84 The March 22, 2024 LEA Letter in response to the February 2024 Slope Stability Analysis Report required CCL to perform additional analyses based on the current actual observed conditions of the waste and gas extraction wells. For example, the analysis in the February 2024 Slope Stability Analysis Report used peak shear strength instead of reduced shear strength. CCL was also directed to include a plan to monitor and record the temperature of the liner at the bottom of the landfill to verify and document that that there are no anticipated impacts to its the long-term performance given the potential exposure to high subsurface temperatures associated with the ongoing reaction. The plan regarding the liner was referred to the LARWQCB.

2.85 On May 8, 2024, the LEA received a draft of the revised Slope Stability Analysis Report dated May 2024 (May 2024 Slope Stability Analysis Report). The report is currently under review.

Mitigation Measure 4 – Manufacturer Specifications

2.86 The December 6, 2023 CCL Response to the November 21, 2023 LEA Letter had no comment regarding Mitigation Measure 4 and agreed to comply with this mitigation measure.

2.87 The May 29, 2024 LEA Letter in response to the May 14, 2024 Plan to install a toe drain at the western slope directed CCL to confirm the waste temperatures are below the manufacturer's recommended maximum temperature limit of the proposed pipe materials. The letter guided CCL to use a forward-looking infrared camera to ensure the HDPE or other material can perform as designed within the recommended temperature limits.

3.0 STATEMENT OF FACTS PERTAINING TO VIOLATION 27 CCR § 20921:

3.1 Pursuant to 27 CCR Section 20921, in order to provide for the protection of public health and safety and the environment, the operator shall ensure that the concentration of methane gas migrating from the disposal site must not exceed 5% by volume in air at the disposal site permitted facility boundary or an alternative boundary approved in accordance with 27 CCR § 20925.

3.2 Beginning with the focused inspection dated September 1, 2023, periodic inspection reports dated September 19, October 25, November 28, December 19, 2023, January 17, February 7, March 26, and April 30, 2024, continue to note the violation for exceedance of methane as described below.

3.3 On September 1, 2023, the LEA measured the methane level at perimeter monitoring well GP-13 at above 5% by volume in air (bv), resulting in a violation of 27 CCR Section § 20921. CCL was directed via email on September 9, 2023, to comply with 27 CCR § 20937 which requires submittal of a remediation plan for approval and implementation within 60 days of noted exceedance and as documented on the report dated September 1, 2023. CCL submitted a

remediation plan to address the methane exceedance at GP-13 on September 8, 2023 (September 8, 2023 Remediation Plan).

3.4 On September 15, 2023, CCL submitted a second remediation plan to include methane exceedance measured by the CCL at GP-15 (September 15, 2023 Remediation Plan). On September 19, 2023, the LEA measured methane levels at perimeter monitoring wells GP-13 and GP-15 at above 5% bv resulting in a violation of 27 CCR § 20921.

3.5 LEA electronic communication with CCL called for CCL to submit subsequent revised plans dated October 6, 2023 (October 6, 2023 Remediation Plan) and November 22, 2023 (November 22, 2023 Remediation Plan) addressing the exceedance at both probes GP-13 and GP-15. The LEA issued a rejection letter on February 6, 2024 (February 6, 2024 LEA Letter) directing CCL to respond to specific comments in a revised plan by February 23, 2024.

3.6 On February 27, 2024, the LEA received the latest version of the remediation plan (February 2024 Remediation Plan) that proposed to install an additional 107 LFG extraction wells by July 31, 2024.

3.7 The LEA approved the February 2024 Remediation Plan by letter May 8, 2024 (May 8, 2024 LEA Letter) requiring the LFG well installation to be completed by July 31, 2024, as proposed by CCL. Upon installation of the LFG extraction wells, CCL is required to continue to monitor the methane levels in all perimeter monitoring wells on a weekly basis and provide the results to the LEA for a monitoring period of 120 days. If the LEA's monitoring shows that the concentration of methane is and remains below the regulatory limit for three (3) consecutive monitoring events and the weekly results submitted by CCL provide supporting evidence that the landfill gas is controlled not to exceed 5% bv in air at the Site's perimeter boundary, then the Site will be deemed compliant with 27 CCR § 20921. If compliance with 27 CCR § 20921 is not achieved within the 120-day monitoring period, then a new remediation plan must be submitted to the LEA for review and approval within 30 calendar days.

3.8 The February 2024 Remediation Plan was also approved by CalRecycle on April 15, 2024 (April 15, 2024 CalRecycle Letter) as required by 27 CCR § 20937.

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4.0 PLACEMENT OF CCL ON THE INVENTORY:

4.1 The LEA issued inspection reports of CCL dated September 1, September 19, October 25, November 28, December 19, 2023, and January 17, 2024. Violations of 27 CCR, Sections 20921 (Gas Monitoring and Control) and 20750 (Site Maintenance) have been noted monthly on LEA inspection reports to date beginning September 1, 2023, and November 28, 2023, respectively.

4.2 On February 8, 2024, CalRecycle notified CCL in a letter sent via certified mail, and received by CCL on February 10, 2024, that if the violations were not corrected within 90 days of receipt of the letter that pursuant to PRC § 44104, the site would be placed on the Inventory of Solid Waste Facilities Which Violate State Minimum Standards (Inventory).

4.3 After confirming with the LEA that violations of the noted standards remained uncorrected and were continuing, on May 16, 2024, pursuant to 14 CCR § 18364, an Inclusion letter was sent by CalRecycle, notifying CCL that CCL was placed on the "Inventory of Facilities Violating State Minimum Standards" list (Inventory List). Inclusion on the Inventory List requires the LEA to establish and issue a compliance schedule to the facility within 15 business days from the date of the inclusion letter. (14 CCR § 18365(a).)

4.4 The purpose of the compliance schedule is to ensure that diligent progress is made by the operator to bring the facility into compliance pursuant to PRC § 44106. (14 CCR § 18304.3.)

4.5 The compliance schedule may be incorporated into a Notice and Order. (14 CCR §§ 18304.3 and 18361(a).)

4.6 The Compliance Schedule must require that all tasks and deadlines be completed within the timeframes specified in 14 CCR § 18365(b).

5.0 VIOLATIONS:

5.1 CCL is in violation of 27 CCR § 20750 (Site Maintenance) and 27 CCR § 20921 (Gas Monitoring and Control).

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COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
SOLID WASTE MANAGEMENT PROGRAM
ACTING AS THE LOCAL ENFORCEMENT AGENCY (LEA)
5050 COMMERCE DRIVE, BALDWIN PARK, CA 91706

6.0 ORDER FOR COMPLIANCE SCHEDULE:

6.1 On June 4, 2024, the LEA met with CCL to discuss the issuance of the Compliance Order. The Compliance Schedule was reviewed with CCL and an extension was asked for the Compliance Deadline for Milestone 1A-2, 1B-1 and 2A-1. The LEA granted the extensions and has updated the deadlines to the dates requested by CCL.

6.2 Pursuant to PRC §§ 43209, 44106, 45000, 45005, 45011, 45017, and 45023, 27 CCR §§ 20750 and 20921, and 14 CCR §§ 18304, 18304.1, 18304.3(b), and 18365(a), Respondent CCL is hereby ordered to comply with the following compliance schedule to eliminate the existing violations:

Compliance Schedule		
27 CCR Section 20750 – Site Maintenance *The operator shall promptly repair or correct defective conditions with respect to state minimum standards. All other aspects of the site shall be kept in a state of reasonable repair.* ***THE FINAL DATE TO ACHIEVE FULL COMPLIANCE WITH 27 CCR § 20750 IN ACCORDANCE WITH THE COMPLIANCE SCHEDULE IS AUGUST 2, 2024.***		
Milestone	**Action Plan/Directive**	**Compliance Deadline**
1A - 1	**Submit a revised Air/Soil Break Plan to the LEA for review and approval. The revised Air/Soil Break Plan must fully address the LEA directives including data from TMPs and LFG collection wells (refer to the May 3, 2024, LEA Letter for details) to inform the required items mentioned below:** a. Investigate how each cell or phase was constructed and examine if air/soil breaks between cells/phases can be exploited. The investigation should include a review of where haul roads were constructed to determine if the inert roads can also be used as fuel breaks. Information from the investigation should be used to develop where containment breaks should be placed. b. Propose a set of criteria for the primary and secondary engagement lines and the type of reaction breaks/barriers and/or mitigations. These criteria shall	**July 8, 2024**

	be based on temperature, CO, and possibly settlement rate. The primary engagement lines need to prevent the reaction from spreading in the main fill close to the reaction. The secondary engagement lines need to prevent the reaction from entering the eastern and southern fill areas at the toe of the slope. c. Investigate and propose construction of air/soil reaction breaks in the main 160-acre fill area for the reaction of the engagement lines with either an inert material or air. d. Include the construction of air/soil reaction breaks/barrier between Canyon C, A, D, and Cell 5 in the event the reaction reaches the secondary engagement lines. e. Include timelines and method of construction. The timelines and engagement lines must match. f. Use best available technology, such as grout injection, to slow or contain reaction movement to the south and east. g. Description of the criteria that will mandate the temporary suspension of placing new waste. *CCL may submit an alternative plan to the LEA for review, only if such plan is adequately supported by substantive data and studies and provides assurances to the LEA that the reaction is no longer a threat to public health, safety and the environment.* Note: If the air/soil break plan submitted by CCL is rejected by the LEA after the final compliance date for this violation, then a penalty will be assessed from the date LEA issues a rejection until the air/soil break plan is approved by the LEA. (No penalty will be assessed during the period of LEA review.)	
1A - 2	**Submit a report with CO and H2 readings for all gas collection wells in the reaction area and wells 200 feet outside the reaction area, including the following:**	**June 11, 2024**

	a. The gas data tabulated with the following information: date collected or measured, wellhead temperature, analyte names and concentrations, including but not limited to permanent gases and H2 analyzed using thermal conductivity detection/ gas chromatography (TCD/GC) ASTM D1946-14 and CO analyzed using flame ionization detection/total combustion analysis (FID/TCA), EPA Method ALT-144 b. Sampling summary, map showing the reaction area as it is currently defined, gas sampling plan, Quality Assurance/Quality Control data, and proposed holding times, and whether holding times were exceeded, etc. c. Report as a standalone document that is signed by a licensed engineer or qualified responsible person.	
1A - 3	**Submit the laboratory test results for <u>all</u> monthly LFG sampling (including CO and H2) from a set of LFG wells selected by the LEA after the baseline sampling for CO and H2 is completed and provided to the LEA as described above. The LFG data that is collected must be submitted to the LEA in a standalone report signed by a licensed engineer or qualified responsible person and include a discussion of the sampling, LFG data, and a graphic showing CO and H2 trends over time.**	**Monthly by the 15th of the following month, from the date that CCL receives the selected LFG wells from the LEA**
1B - 1	**Submit a revised Completion Report for the installation of the TMPs that include the following:** a. Site map that includes the location of the TMP's location, the completion depth at each well, and as-builts. The map must also include the reaction area as it is defined as of May 1, 2024. b. Provide real-time access to temperature data to the LEA and CalRecycle and specify the method of access (e.g., web portal). c. Temperature data that includes the maximum temperature recorded at each TMP.	**June 11, 2024**

	d. Signature and stamp of a licensed engineer or qualified responsible party to show all work can be clearly attributed to the licensee(s)in responsible charge of the work.	
1B - 2	**Continue to submit the Weekly TMP Reports. Revise the reports so they are standalone documents that include the following:** a. Graphs that show the maximum temperature recorded at each TMP. CCL may choose to continue to also include the average temperature in the weekly reports. b. Map delineating the reaction area with the maximum observed temperature at each TMP with depth. c. Narrative describing any anomalies, outliers, data gaps, issues or malfunctions. The narrative must describe any temperature increases of 20°F or greater within 48 hours or 10°F in a week.	**June 7, 2024, and weekly each Friday thereafter**
1B - 3	**Provide a temperature contour map that shows each TMP with color-coded observations based on the maximum observed temperature collected during the month.** *Example was provided in the May 29, 2024 LEA Response.*	**Monthly by the 15th of the month beginning June 2024.**
1B - 4	**Install three temperature probes around the area that is extending south into areas outside of the previously defined reaction area as shown in the Weekly Cover Report dated May 14, 2024.** *Map showing locations of wells around the extended reaction area was provided in the May 29, 2024 LEA Response.* **Provide a final completion report that includes a map and as-builts that is signed by a registered engineer or qualified responsible person.**	**July 11, 2024**
2A - 1	**Install the approved 30-mil HDPE geosynthetic cover over the 30-acre reaction settlement area as defined in the Weekly Cover Reports dated up through May 28, 2024, and around any wells showing signs of reaction, i.e., any wells with temperature over 160ºF or CO concentrations over 1,500 ppmv.**	**August 2, 2024**

2A - 2	**Continue to provide Weekly Updates on the Installation of the 30-mil Geosynthetic Cover including a map showing approximate limits of the installed geosynthetic cover. Updates shall include any delays due to rain events or other special occurrences.** **Revise the map to show the required 30-mil geosynthetic coverage area, delineate any areas showing settlement and any wells showing signs of reaction.**	**Ongoing on Fridays with revised map beginning June 14, 2024.** *(Note: Weekly reporting may be reduced in frequency or discontinued only after the required geosynthetic cover is installed and with LEA written approval.)*
2B	**Continue to submit the Weekly Geosynthetic Cover Reports as in the approved April 16, 2024 Revised Written Plan, include the required directives in the May 29, 2024 LEA Letter.**	**Ongoing** (*Note: Weekly reporting may be reduced in frequency or discontinued only with LEA written approval.)*
3 - 1	**Ensure slope stability issues are included in the Weekly Geosynthetic Cover Reports as directed in the May 3, LEA Letter and May 29, 2024 LEA Response.**	**Ongoing** (*Note: Weekly reporting may be reduced in frequency or discontinued only with LEA written approval.)*
3 - 2	**Submit a West and North Slope Stability Analysis Final Report that fully addresses LEA's comments.**	**Two weeks from the date of the LEA comment letter**
27 CCR Section 20921 – Gas Monitoring and Control *The concentration of methane gas migrating from the disposal site must not exceed 5% by volume in air at the disposal site permitted facility boundary or an alternative boundary approved in accordance with § 20925.* ***THE FINAL DATE TO ACHIEVE FULL COMPLIANCE WITH 27 CCR § 20921 IN ACCORDANCE WITH THE COMPLIANCE SCHEDULE IS NOVEMBER 28, 2024.***		

4 - 1	**Install and operate an additional 107 LFG extraction wells as per approved February 26, 2024 Remediation Plan for LFG Exceedance. Notify the LEA upon completion.** **Provide a final completion report that includes a map and as-builts that is signed by a registered engineer or qualified responsible person.**	**July 31, 2024**
4 - 2	**Continue to submit a weekly status update on the installation of the LFG extraction wells as per the May 8, 2024 LEA Letter.**	**Ongoing** *(Ongoing until completion of installation of all LFG extraction wells listed in the February 26, 2024 Remediation Plan.)*
4 - 3	**Continue to submit weekly results of methane readings at perimeter monitoring wells GP-13 and GP-15.**	**Ongoing until compliance with 27 CCR 20921 has been demonstrated as set forth in Milestone 4-4** *(Note: Weekly reporting may be reduced in frequency or discontinued only with LEA written approval.)*
4 - 4	**Demonstrate compliance with 27 CCR Section 20921 within the 120-day compliance period that begins after the completion of the planned LFG extraction well construction referred to in the February 2024 Remediation Plan.** In order to demonstrate compliance, the concentration of methane must be at or below regulatory limit for three (3) consecutive monitoring events conducted by the LEA, and the weekly results submitted by CCL must provide supporting evidence that the LFG is controlled not to exceed 5% by volume in air at the site's perimeter boundary.	**120 days after completion of the LFG extraction well installation and no later than November 28, 2024 (Compliance Period)** *(Note: November 28, 2024 is based on the*

		anticipated completion date for installation of the LFG extraction wells.)
5	**Submit a consolidated monthly report with individual maps overlayed with the following data in an easily understood format** - **Defined reaction area;** - **Expansion of reaction area if any;** - **Weekly TMP data;** - **Settlement with heat maps; and** - **LFG data including, but not limited to CO and H2 data**	**Monthly by the 15th of the month, from the date that CCL receives the selected LFG wells from the LEA - Refer to Milestone 1A-3** *(Note: Monthly reporting may be reduced in frequency or discontinued only with LEA written approval.)*

7.0 APPLICABLE TO ALL MILESTONES:

7.1 CCL must obtain all required and necessary Federal, State, and local permits prior to commencement of any work at the site.

7.2 Notwithstanding anything to the contrary herein, if any of the above milestones and compliance deadlines cannot be met in good faith, CCL may submit a written extension request to the LEA setting forth good cause justification.

7.3 Pursuant to PRC § 45011, failure to comply with the final compliance date for each violation, unless otherwise excused in writing by the LEA, will result in the LEA issuing an administrative penalty order for penalties payable by CCL to the LEA, of up to $5,000 per day for each day that CCL is in violation of the final compliance schedule for a particular violation, calculated from the day after the violation compliance date, until the date compliance is achieved and verified by the LEA.

///

8.0 NOTICE OF FURTHER PENALTIES AND ENFORCEMENT THAT MAY RESULT FROM FAILURE TO COMPLY WITH THE LEA'S ORDER:

8.1 The LEA may assess administrative civil penalties not to exceed five thousand dollars ($5,000) for each violation, for each day that the violation continues, if compliance is not achieved in accordance with the compliance schedule set forth in this Order. (PRC §§ 45010.1 and 45011.)

8.2 The LEA may suspend or revoke the solid waste facility permit if the facility does not meet the requirements contained in the compliance schedule issued by the LEA until the violation(s) of state minimum standards which caused the facility to be included in the Inventory are remedied. (PRC §§ 44305 and 44306, and 14 CCR §§ 18307 and 18368(b).)

8.3 The LEA may file a petition in the Superior Court for injunctive relief to enforce any part of this Order. (PRC §45014.)

8.4 Upon failure to comply with the Order, the LEA may bring an action in the Superior Court to impose upon CCL civil penalties of not more than ten thousand dollars ($10,000) for each day a CCL is in violation of the Order. (PRC §§ 45023 and 45024.)

8.5 The LEA and/or CalRecycle shall not be liable for injuries or damages to persons or property resulting from acts or omissions by CCL or related parties in carrying out activities pursuant to this order, nor shall the LEA and/or CalRecycle be held as a party to any contract entered into by CCL or its agent(s) in carrying out activities pursuant to this Order.

8.6 Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current, or future operations. Notwithstanding compliance with the terms of this Order, CCL may be required to take further actions as necessary to protect public health and safety or the environment.

8.7 This Order does not relieve CCL from complying with all other local, state, and federal requirements or prevent the LEA and/or CalRecycle from taking any and all other actions allowed by law.

8.8 This Order is supported by the accompanying declarations by Eric Morofuji and Mark Como.

8.9 This Order may only be amended in writing by an appropriate representative of the LEA.

9.0 RIGHT TO APPEAL

9.1 CCL has the right to appeal this Order (PRC §§ 44307 and 44310) by submitting a written request for a hearing, together with a statement of issues on which appeal is based, within 15 days. Request for Hearing is provided with this Order. The appeal must be sent via U.S. Mail to Los Angeles County Public Health, Solid Waste Management Program/Local Enforcement Agency (LEA), 5050 Commerce Drive, Baldwin Park, Ca 91706, Attention: Karen Gork or via electronic mail to kgork@ph.lacounty.gov.

9.2 An appeal does not stay the effect of any provision of this Order. However, you may petition the Director of CalRecycle, in writing, to stay the effect of this Order, or portion thereof, pending the completion of administrative appeals. (PRC § 45017.) A petition submitted must be in writing and shall state the extraordinary circumstances that justify the stay. The petition shall also state the grounds, if any, on which a finding may be made that the immediate effect of the order or determination will preclude or interfere with the provision of an essential public service so that the public health and safety or the environment will be adversely affected.

10.0 CERTIFICATION

10.1 This Compliance Order is issued as of the date set forth below.

Signed: Liza Frias _____ Date: June 6, 2024

Liza Frias, Director, Environmental Health
Los Angeles County LEA

Attachments:

Declarations
September 1, 2023 LEA Focused Inspection Report

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
SOLID WASTE MANAGEMENT PROGRAM
ACTING AS THE LOCAL ENFORCEMENT AGENCY (LEA)
5050 COMMERCE DRIVE, BALDWIN PARK, CA 91706

September 19, 2023 LEA Periodic Inspection Report

October 25, 2023 LEA Periodic Inspection Report

November 28, 2023 LEA Periodic Inspection Report

December 19, 2023 LEA Periodic Inspection Report

January 17, 2024 LEA Periodic Inspection Report

February 7, 2024 LEA Periodic Inspection Report

March 26, 2024 LEA Periodic Inspection Report

April 30, 2024 LEA Periodic Inspection Report

May 14, 2024 LEA Focused Inspection

October 16, 2023 CalRecycle Letter

October 17, 2023 LEA Letter

October 20, 2023 CCL Response

November 14, 2023 CalRecycle Letter

November 21, 2023 LEA Letter

December 6, 2023 CCL Response

April 5, 2024 LEA Letter

April 12, 2024 CCL Response

March 27, 2024 Plan

May 3, 2024 LEA Letter

May 8, 2024 Data

May 28, 2024 LEA Letter

December 20, 2023 Plan

December 22, 2023 LEA Letter

January 2, 2024 CCL Letter

January 17, 2024 CCL Letter

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
SOLID WASTE MANAGEMENT PROGRAM
ACTING AS THE LOCAL ENFORCEMENT AGENCY (LEA)
5050 COMMERCE DRIVE, BALDWIN PARK, CA 91706

January 29, 2024 LEA Letter

February 26, 2024 LEA Letter

February 29, 2024 CCL Letter

March 4, 2024 CCL Letter

March 20, 2024 LEA Approval

March 20, 2024 LEA Letter

March 28, 2024 Report.

April 16, 2024 CCL Letter

April 24,2024 LEA Letter

May 3, 2024 CQA Report

May 29, 2024 LEA Response

December 8, 2023 CCL Memorandum

December 14, 2023 LEA Letter

December 19, 2023 CCL Plan

December 20, 2023 LEA Letter

December 29, 2023 CCL Letter

January 23, 2024 CCL Letter

January 26, 2024 LEA Letter

February 2, 2024 (CCL Letter)

April 19, 2024 CCL Memorandum

May 10, 2024 LEA Letter

May 14, 2024 CCL Updated Schedule

May 14, 2024 CCL Plan

May 29, 2024 LEA Letter

December 6, 2023 Cover Tracking Plan

COUNTY OF LOS ANGELES
Public Health

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH
SOLID WASTE MANAGEMENT PROGRAM
ACTING AS THE LOCAL ENFORCEMENT AGENCY (LEA)
5050 COMMERCE DRIVE, BALDWIN PARK, CA 91706

December 21, 2023 Revised Plan

January 3, 2024 LEA Letter

March 22, 2024 LEA Letter

April 16, 2024 Revised Plan

May 2, 2024 LEA Letter

CCL Barrier Discussion presentation

Isolation Break Criteria Example document

December 2023 Slope Stability Analysis Plan

February 2024 Slope Stability Analysis Report

February 26, 2024 60-Day Remediation Plan for GP-13 and GP-15

April 15, 2024 CalRecycle Response to 60-Day Remediation Plan

May 8, 2024 LEA Letter Response to 60-Day Remediation Plan

Request for Hearing Form

COUNTY OF LOS ANGELES
Public Health

BARBARA FERRER, Ph.D., M.P.H., M.Ed.
Director

MUNTU DAVIS, M.D., M.P.H.
County Health Officer

ANISH P. MAHAJAN, M.D., M.S., M.P.H.
Chief Deputy Director

NICHOLE QUICK, M.D., M.P.H.
Deputy Director for Health Protection

LIZA FRIAS, REHS
Director of Environmental Health

BRENDA LOPEZ, REHS
Assistant Director of Environmental Health

SCOTT ABBOTT, REHS, M.P.A.
Assistant Director of Environmental Health

5050 Commerce Drive
Baldwin Park, California 91706
TEL (626) 430-5374 • FAX (626) 813-3000

www.publichealth.lacounty.gov/eh/

BOARD OF SUPERVISORS

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First District

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Third District

Janice Hahn
Fourth District

Kathryn Barger
Fifth District

September 24, 2024

Via Electronic Correspondence

Steve Cassulo
Steven.cassulo@WasteConnections.com
District Manager
Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, CA 91384

SUBJECT: CHIQUITA CANYON LANDFILL (SWIS NO. 19-AA-0052) – LEA RESPONSE TO CHIQUITA CANYON'S REVISED SOIL REACTION BREAK/BARRIER PLAN – MILESTONE 1A-1 OF THE LEA COMPLIANCE ORDER DATED JUNE 6, 2024

Dear Mr. Cassulo,

On July 8, 2024, the Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), received the Revised Soil Reaction Break/Barrier Plan (Plan) dated July 8, 2024, prepared by SCS Engineers for Chiquita Canyon Landfill (CCL) to comply with Milestone 1A-1 of the LEA Compliance Order dated June 6, 2024.

The LEA, in collaboration with CalRecycle, has determined that the Plan is insufficient to address the Subsurface Elevated Temperature (SET) Event and to control shallow reactions, which could lead to further expansion and increased risks. Below are key concerns from the enclosed CalRecycle review letter dated September 20, 2024 (CalRecycle Letter), along with directives on determining the criteria for barrier installation and implementation strategies. **To ensure full understanding and compliance, please thoroughly review the enclosed CalRecycle Letter, as it contains critical details that are not fully incorporated in this letter.**

The landfill's reaction area has expanded beyond CCL's initially defined area, with temperature increases detected outside the geomembrane at shallow depths of 15 to 30 feet at several temperature monitoring probes (TMPs), notably a 33.4°F spike at TMP-15 in one day.

The reaction now extends both east and south of the originally defined area, necessitating immediate containment measures. CCL must establish a barrier for the SET Event, with three areas of concern: the primary reaction area and two small areas to the east and south. Furthermore, the main reaction area is larger than previously reported, with CalRecycle defining the boundary as the entire area under the geomembrane cover as of August 1, 2024.

CCL is required to submit a revised Plan by October 24, 2024, that incorporates the updated threshold and barrier installation criteria, and installation of an additional TMP as described below:

Threshold Limit Criteria as Presented in Exhibit 2 in the CalRecycle Letter

Temperature Criteria: If the in-situ waste temperature exceeds 230°F, down well gas temperatures exceed 230°F, or drill tailings temperatures exceed 250°F, CCL must begin installation of a barrier within 30 days. Furthermore, any temperature spike greater than 50°F over a 30-day period will necessitate immediate sampling of landfill gas (LFG) and consultation with the LEA to determine the next steps.

LFG Criteria: The LFG composition, a barrier installation may be required if methane levels fall below 15%, hydrogen exceeds 5%, or carbon monoxide rises above 1,500 ppmv. If these conditions are met, gas samples from adjacent wells must be analyzed to determine whether the reaction is expanding. If no signs of expansion are detected, continuous monitoring must continue every 30 days until the reaction stabilizes. CCL, LEA and other agencies will meet to discuss the results and determine whether additional sampling or barrier is required.

Other Criteria: In addition to temperature and LFG monitoring, settlement rates and strain should be observed regularly to assess the reaction's expansion. Although settlement data is important for tracking physical changes, it should not be used as a primary criterion for barrier installation. Dimethyl sulfide and Chemical Oxygen Demand (COD) should not be used as reliable indicators of a SET event due to insufficient evidence supporting their use. Similarly, while benzene concentrations should be monitored, they will not serve as primary criteria for barrier installation but may be used to support the assessment of other gas indicators.

Barrier Construction Strategies Based on the Reaction Depth

For reactions occurring at depths of less than 50 feet, a 4-foot-wide soil trench should be constructed, extending at least 40 feet deep or to the leachate liquid level. This trench must be backfilled with low-permeability soil and compacted to achieve a permeability no greater than 1 x 10^{-5} cm/s to act as an effective fuel break.

For deeper reactions, the barrier must be constructed using borehole drilling combined with flowable fill injection. If this method proves ineffective, a vertical shaft barrier should be installed using a bucket auger drill rig with a 3 to 4-foot diameter augur, drilled to a minimum depth of 50 feet or leachate liquid level, and backfilled with a cement-bentonite or soil-bentonite mixture to form a continuous barrier. See Figure 5 in the CalRecycle Letter.

Installation of an additional TMP as noted below.

The proposed additional temperature monitoring probes (TMPs) listed in Appendix D of the Plan, including the "Sentinel" TMPs and Primary & Secondary Engagement Lines, are accepted. Due to the recent temperature spike at TMP-10, one TMP must be added at the location shown in Figure 6 in the CalRecycle Letter. The installation of these additional TMPs is required, with

priority given to the new probe's placement near TMP-10 in light of the observed temperature increase.

Ensure no waste is placed within 500 feet of the current reaction area before, during, and after the implementation of barrier plan, creating a buffer zone to maintain adequate spacing between the reaction area and other areas of the landfill.

Submit the revised Plan that includes the signature of a qualified person or licensed engineer.

In addition, CalRecycle recommends that the CCL limit oxygen to no more than 2 percent in any interior gas well within the main waste area. Please discuss this recommendation with the South Coast Air Quality Management District.

If you have any questions, please contact Karen Gork at (626) 430-5540.

Sincerely,

Shikari Nakagawa-Ota
Branch Director, Environmental Protection Branch
Los Angeles County Local Enforcement Agency (LEA)

Enclosure

Cc: (Via Electronic Correspondence Only)

- Robert Ragland, Los Angeles County Department of Public Health
- Liza Frias, Los Angeles County Department of Public Health
- Nichole Quick, M.D., Los Angeles County Department of Public Health
- Ken Habaradas, Los Angeles County LEA
- Karen Gork, Los Angeles County LEA
- Renee Jensen, LEA Counsel (rjensen@fwhb.com)
- Blaine McPhillips, Senior Deputy County Counsel
- Emiko Thompson, Los Angeles County Department of Public Works
- Alex Garcia, Los Angeles County Department of Regional Planning
- Ai-Viet Huynh, Los Angeles County Department of Regional Planning
- Wes Mindermann, CalRecycle (wes.mindermann@calrecycle.ca.gov)
- Janelle Heinzler, CalRecycle (janelle.heinzler@calrecycle.ca.gov)
- Jeff Lindberg California Air Recourses Board (jeff.lindberg@arb.ca.gov)
- Vanessa Aguila, California Air Resources Board (vanessa.aguila@arb.ca.gov)
- Jack Cheng, South Coast Air Quality Management Board (jcheng@aqmd.gov)
- Larry Israel, South Coast Air Quality Management Board (lisrael@aqmd.gov)
- Douglas Cross, Los Angeles Regional Water Quality Control Board (dcross@waterboards.ca.gov)
- Joel Jones, United States Environmental Protection Agency (Jones.Joel@epa.gov)

September 20, 2024 *Via Email:kgork@ph.lacounty.gov*

Karen Gork
Chief Environmental Health Specialist
Los Angeles County Department of Public Health
5050 Commerce Drive
Baldwin Park, California 91706

Subject: Chiquita Canyon Landfill (19-AA-0052) Review – Revised Soil Reaction Break/Barrier Plan dated July 8, 2024

Dear Ms. Gork:

CalRecycle staff is providing this letter in response to your July 2024 request for technical assistance in reviewing the subject Chiquita Canyon Landfill's (CCL) Revised Soil Reaction Break/Barrier Plan.

The following comments are provided to the Los Angeles County Department of Public Health [Local Enforcement Agency (LEA)] as assistance to support the program in carrying out its responsibilities on permitted disposal sites. The final determination as to the comments to be provided to the responsible party is within the sole purview of the LEA, acting within the parameters of its discretion, in accordance with its vested authority under its certification as defined in Title 14, California Code of Regulations (14 CCR), Division 7, 27 CCR, Division 2, Subdivision 1 (Section 20005 et seq.), and Division 30 of the Public Resources Code.

Discussion

The main waste area, which contains the 40-acre reaction area, consists of cells 1 and 2, modules 1 to 5, and canyons A to D. Figure 1 identifies the current area covered by the geomembrane as of September 5, 2024.

The subject plan recommends installing additional temperature monitoring probes (TMP), placing a soil layer over where the reaction occurs, and injecting inert material as a barrier layer. The plan deems other methods, such as inert material barriers, air breaks, and trench excavations, implausible due to incompatible timelines, logistical and public concerns, increased air emissions and potentially hazardous conditions,

increased fire risk, and/or impaired ability to address Elevated Temperature Landfills (ETLF).

CalRecycle staff has determined that the Revised Soil Reaction Break/Barrier Plan is insufficient to control shallow reaction expansions, which may lead to rapid reaction expansion and jeopardize the entire 190-acre main waste area.

It appears the CCL is no longer using the term “unknown chemical reaction” to describe the reaction at the landfill but has adopted an industry-developed term, Elevated Temperature Landfill (ETLF). However, this term also does not indicate a cause of the reaction. The waste industry claims ETLFs are generally characterized when municipal solid waste (MSW) decomposition is impeded by heat accumulation and are not smoldering fires.

To date no evidence to support this conclusion has been provided for this incident. Nor has a root cause analysis been performed for this incident by examining the conditions that led to the initial event at gas control wells CV-109-55, CV-1419, and CV-1418. Before 2014, the waste industry generally defined a Subsurface Elevated Temperature (SET) Event as a gas wellhead temperature measured greater than 131°F at a site that had accepted unknown or reactive industrial waste. After 2014, the waste industry changed the definition of a SET Event to a landfill that had measured wellhead temperatures above the regulatory thresholds of 131°F or 145°F from an abnormal chemical reaction and not a subsurface fire or waste smolder.

Around 2015, the Environmental Research and Education Foundation (EREF) conducted multiple studies on SET Events. The research group selected for the EREF study first proposed that SET Events were a function of landfill depth. This hypothesis for a SET Event was based on the ideal gas law (i.e., PV = nRT, where P is pressure, V is volume, n is the number of moles in the gas, R is the gas constant, and T is temperature). Using the ideal gas law, the EREF studies surmised that the increased pressure created by the waste above can generate higher temperatures as waste depth increases. This hypothesis was disproved using vertical temperature profiles derived from using thermocouples at several landfills experiencing a SET Event and temperature data from California landfills with deep-fill designs.

The second hypothesis of the EREF-sponsored research was that a self-sustaining exothermic pyrolysis reaction caused SET Events. This hypothesis was disproven in 2022 because EREF revealed that self-sustaining exothermic pyrolysis reactions did not cause SET Events. As a result, the current waste industry consensus is that SET Events are due to landfills accepting unknown industrial waste (e.g., aluminum dross) that causes unknown chemical exothermic reactions under certain conditions. The industry consensus that landfills with SET Events have accepted unknown reactive industrial wastes is not supported by any published research, root cause analysis per USEPA, New Source Performance Standard (NSPS) regulations, probable cause assessment, or post-industrial chemical investigation such as ones performed by the United States Chemical Safety Board. While some landfills knowingly and unknowingly

accept reactive industrial waste, suggesting that a landfill can accept some unknown industrial waste disposed of over 20 to 80 acres at the same elevation in different waste cells with interim soil covers constructed 2 to 10 years apart is unlikely. Additionally, the CCL has stated the facility has not accepted any hazardous or reactive wastes during its operational period.

CalRecycle staff maintains there are only three known causes of a SET Event: (1) thermophilic bacteria, (2) reactive industrial waste causing heat, and (3) combustion, pyrolysis, and/or smoldering due to oxygen intrusion. To suggest a SET Event cannot be related to a fire or smolder and can only be caused by a landfill accepting industrial waste is unrealistic.

Lastly, the CCL stated they are “not aware of regulations or guidance published by federal or state regulatory agencies that inventory specific numerical values for these parameters,” which is factually incorrect. The CCL is correct that no federal or state regulations or published guidance that inventory specific numerical values for these parameters for unknown chemical reactions or ETLFs.

However, SCS Engineer Robert P. Stearns was the first in the nation to establish criteria for identifying and controlling landfill fires in 1984. CalRecycle and other state regulatory agencies later referenced the Stearns criteria in many guidance documents. The USEPA also implemented new landfill gas control regulations to investigate and control SET Events. The USEPA and the Ohio EPA developed a set of criteria in the following document:

Final Report, Work Activities Pursuant to Administrative Agreement and Order on Consent for Removal Action (AOC), Docket No. V-W-’08-C-897, Countywide Recycling and Disposal Facility, East Sparta, Stark County, Ohio, dated October 2009

The criteria determined when and where to install the air break at the Countywide Landfill. There are also other documents available with specific break criteria for the Bridgeton Incident in Missouri.

Criteria for Reaction Area

Several criteria and details must be established to install a barrier in a SET Event. The first issue is to provide a starting point for the SET Event area. The recent TMP data from August 30, 2024, and September 12, 2024, the reaction is beginning to show the following:

- Temperature increases outside the geomembrane at shallow depths of 15 to 30 feet at TMP-8, TMP-10, TMP-13, TMP-15, and TMP-17.
- The 15-foot thermocouple at TMP-8 showed a change in maximum temperature of 16.2°F in 14 days from 115.3°F to 131.5°F from August 30 to September 11, 2024, and the 30-foot thermocouple showed a change in maximum temperature of 16.8°F in 14 days from 120.0°F to 136.8°F from September 1 to September 11, 2024.

- TMP-10 increased by 19.8°F within 48 hours from August 30 to September 5, 2024, and 41.6°F in 14 days from 126.1°F to 167.7°F from August 25 to September 8, 2024.
- TMP-13, TMP-15, and TMP-17 also show temperature spikes of 20°F to 25°F during the week of August 16 to August 22, 2024. The most significant temperature spike was from TMP-15, where the temperature rose 33.4°F in one day from September 5 to September 6, 2024, at the 30-foot thermocouple. Figures 2 and 3 show examples of the shallow temperature spikes in TMP-13 and TMP-10, respectively.
- The CCL-identified reaction zone from the depths of 70 feet to approximately 140 feet has remained consistent since July 26, 2024.

Based on the CCL's project data, past settlement rates, fissure reports, drilling logs, TMP data, field observations, odor data, landfill gas (LFG) data, 24-hour high temperature reports required by Title 40 of the Code of Federal Regulations (40 CFR) Section 63.1981(k), physical evidence, and other factors there are three distinct areas of concern: the primary reaction reported by CCL and two newly identified smaller reaction areas to the east and the south. The data also indicates that the main reaction area is larger than reported by the CCL. As of August 1, 2024, CalRecycle considers the reaction boundary to be defined as the entire area under the geomembrane cover identified in Figure 1.

Criteria for Barrier Installation

The CCL proposes to install the reaction break/barrier at the primary and/or secondary engagement lines, as shown in Figure 4, only if all the Threshold Criteria Limits shown in Exhibit 1 are exceeded at the corresponding Sentinel Monitoring Network (i.e., TMPs and associated vertical LFG extraction wells). The criteria for implementing containment strategies will be the same as determining whether the reaction is expanding with several verifications to ensure the decision to install a barrier is valid. Temperature will be the primary standard for installing a barrier, with LFG data being the secondary standard.

CalRecycle Recommended Barrier Activation Requirements

Exhibit 2 presents the recommended barrier activation requirements. Should condition one or two in Exhibit 2 below be exceeded, the CCL will implement a barrier strategy based on the depth of the reaction.

Temperature Criteria

The CCL has proposed a temperature of 250°F as one of the metrics for installing a barrier. The highest recorded temperature to date in the reaction area has been approximately 230°F. Using a temperature requirement of 250°F would allow the reaction to continue to expand as it has since January 2022. Additionally, using a down well temperature of 250°F in PVC schedule 80 gas wells outside the reaction area is

also problematic due to the thermal breakdown and the collapsing of PVC well casings at temperatures above 180°F.

Based on current reaction temperature data, CalRecycle recommends that the temperature criteria be based on actual recorded maximum temperature and changes in temperature observed over a short period. The temperature baseline for TMPs, wellheads, and down wells outside the reaction area will be August 1, 2024. Should new wells or TMPs be installed or new down well temperatures be collected, the baseline temperature will be the initial temperature collection.

CalRecycle recommends that if the in-situ waste temperature from a TMP exceeds 230°F, a down well gas temperature exceeds 230°F, or a temperature recorded from drill tailings using a forward-looking infrared (FLIR) device exceeds 250°F, the CCL will implement one of the barrier strategies discussed below within 30 days.

Landfill Gas Composition Criteria

CalRecycle concurs with the CCL's temperature requirement of 190°F for wellhead or down well temperatures and other LFG data to confirm that a barrier should be installed as a secondary standard. LFG data (i.e., O_2, CO, H_2, CH_4, CO_2) will be analyzed using laboratory methods.

If the temperature does not exceed the criteria listed in condition one but does exceed 190°F or increases by 50°F within 30 days, additional landfill gas will be collected twice and analyzed for CO, H_2, CH_4, and CO_2 within 15 days. The CCL will also sample the four adjacent wells for the field gas data. If the adjacent wells do not show indications of a reaction for temperature or landfill gas indicators, three additional monitoring events for temperature (i.e., wellhead and down well) and landfill gas (i.e., O_2, CO, H_2, CH_4, CO_2, and TO-15) will occur every 30 days. The landfill will submit the results of each sampling event to the LEA for consultation. Should the results in the adjacent wells not show an increase in temperature or problems with O_2, CO, H_2, CH_4, CO_2, or TO-15, the target well should continue to be monitored every thirty days until the temperature stabilizes and is repeatable.

The CCL will meet with the LEA and other agencies to discuss the results and determine whether additional sampling or a barrier is required. The barrier construction decision will be based on temperature and the following landfill gas criteria: CO above 1,500 ppm, H_2 above 5 percent, or CH_4 below 15 percent. For recommended criteria, see Exhibit 2. If the LEA determines a barrier is required, the CCL will submit a work plan for approval.

Settlement Rate Criteria

The CCL proposes to use strain rate and change in historic change strain rate as criteria to implement the barrier plan. Criteria based on settlement rates are post-SET Event indicators, and CalRecycle does not recommend their use as criteria to

implement proactive protective measures such as a barrier. Settlement rates and tracking are critical physical properties that can help identify the reaction rate of expansion occurring through an area.

Other Criteria

There is little evidence that dimethyl sulfide and COD are reliable indicators of a SET Event, and CalRecycle does not recommend their use. While high benzene concentrations have been shown to occur at SET Events, the temperature in waste at which benzene is produced at the regulatory threshold level has yet to be determined. CalRecycle agrees with the CCL and will not use benzene as a criterion to install the barrier at the CCL. Benzene levels will be used to support the other known SET Event landfill gas criteria.

Barrier Strategies

As requested, the CCL reviewed historical documentation to research how waste disposal units were constructed and operated. The review efforts focused on the existence and location of any physical features that could impede the propagation and movement of reaction within the waste mass. The CCL found no cell separation berms or legacy roads that would prevent the reaction from limiting the movement. The evaluation of intermediate soil cover layers between cells to provide a fuel break was inconclusive. A 2004 imagery shows soil placed up against the western and southwestern side slopes of Cell 1/2A, Cell 2 Phase 2B, and Canyon A slopes, but recent well logs did not provide evidence that there was a substantial intermediate cover.

As such, the plan lists the following five potential scenarios to impede the reaction:

1) Air break through avoidance of placement of additional waste lifts overlying existing buried wastes.
2) Air break through excavation to “cut out” existing buried wastes.
3) Soil barrier through placement of soil layer atop existing landfill surface.
4) Soil barrier through excavation and backfilling of a deep trench.
5) Inert material barrier through borehole drilling, dewatering, and flowable fill injection.

The plan states that while an air break (Scenario #1), an air break excavation (Scenario #2), and a soil barrier through excavation (Scenario #5) may be plausible at other SET Events, the CCL deemed them implausible or unsuitable for implementation at the CCL. The CCL proposes to implement a combination of placing a soil layer atop the existing landfill surface and the construction of an inert material barrier through borehole drilling, dewatering, and flowable fill injection.

CalRecycle Recommended Barrier

If the reaction is less than 50 feet deep, a soil trench, soil boring, or combination will be required to create a fuel break and contain it.

The trench will be 4 feet wide and at least 40 feet deep or to the leachate liquid level. Low-permeability soil will be placed and compacted in lifts to achieve a permeability of no greater than 1 x 10^{-5} cm/s. The excavated trash will be logged for physical properties, including temperature from a FLIR, physical condition, and color. If the waste is not reactive, it may be placed in the disposal area indicated in the work plan. If the waste is reactive, the material should be removed from the main waste cell, taken to a predesignated staging area, and handled in a method approved by the LEA.

For reactions at depths greater than 50 feet, an inert material barrier can be constructed through borehole drilling, dewatering, and flowable fill injection. Should the injection method be ineffective at containing the reaction, a vertical barrier would be drilled to a depth of at least 50 feet or the liquid level by a bucket auger drill rig with a 3 to 4-foot diameter auger. The resulting vertical elements will be backfilled with a soil-bentonite or cement-bentonite mix that will resist heat transmission through the barrier. The shafts would be tangent (i.e., touching or overlapped), as shown in Figure 5, to create a continuous barrier across the narrow point of the landfill.

Additional TMP Installation

CalRecycle recommends that the LEA accept the proposed additional TMPs listed in Appendix D, Proposed “Sentinel” Temperature Monitoring Probes and Primary & Secondary Engagement Lines. In addition, due to the recent temperature spike at TMP-10, the CCL should add one TMP at the location shown in Figure 6. This temperature probe should be the first TMP installed.

Summary of Recommendations for LEA Consideration

CalRecycle Staff recommends the LEA consider the following:

- Require the CCL to revise the plan to incorporate the threshold limit criteria presented in Exhibit 2.
- Require the CCL to revise the plan to incorporate the barrier construction recommendations.
- Accept the proposed additional TMPs listed in Appendix D, Proposed “Sentinel” Temperature Monitoring Probes and Primary & Secondary Engagement Lines. In addition, due to the recent temperature spike at TMP-10, the CCL should add one TMP at the location shown in Figure 6. This temperature probe should be the first TMP installed.
- Allow no waste to be placed closer than 500 feet from the current reaction area.
- Recommend that the CCL limit oxygen to no more than 2 percent in any interior gas well within the main waste area.

If you have comments or questions, please call (916) 341-6356 or email Todd.Thalhamer@Calrecycle.ca.gov.

Sincerely,

Todd Thalhamer, P.E.
Senior Waste Management Engineer
Engineering Support Branch

Cc Via Email:

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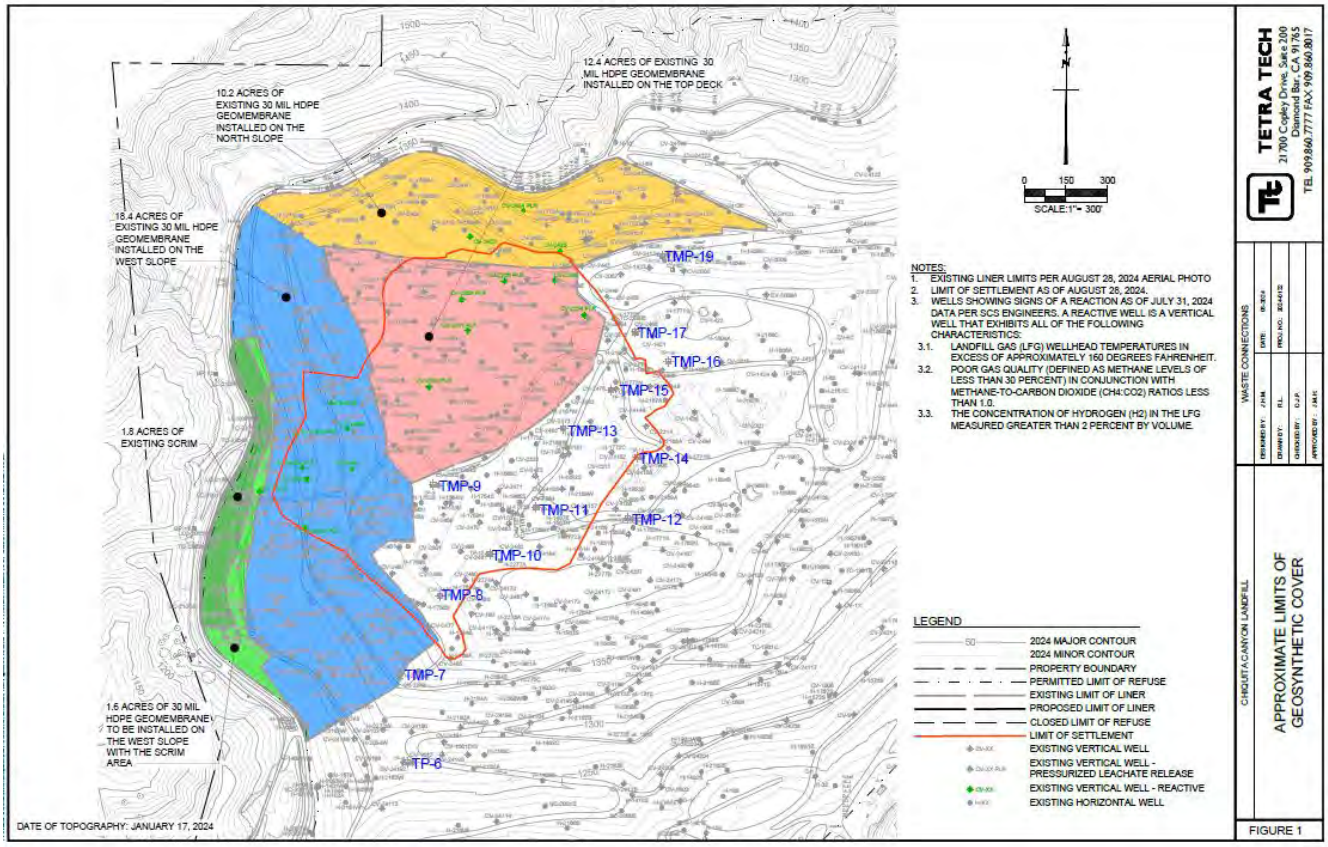

Figure 1. Current Reaction Area Under the Geomembrane Area as of September 5, 2024.

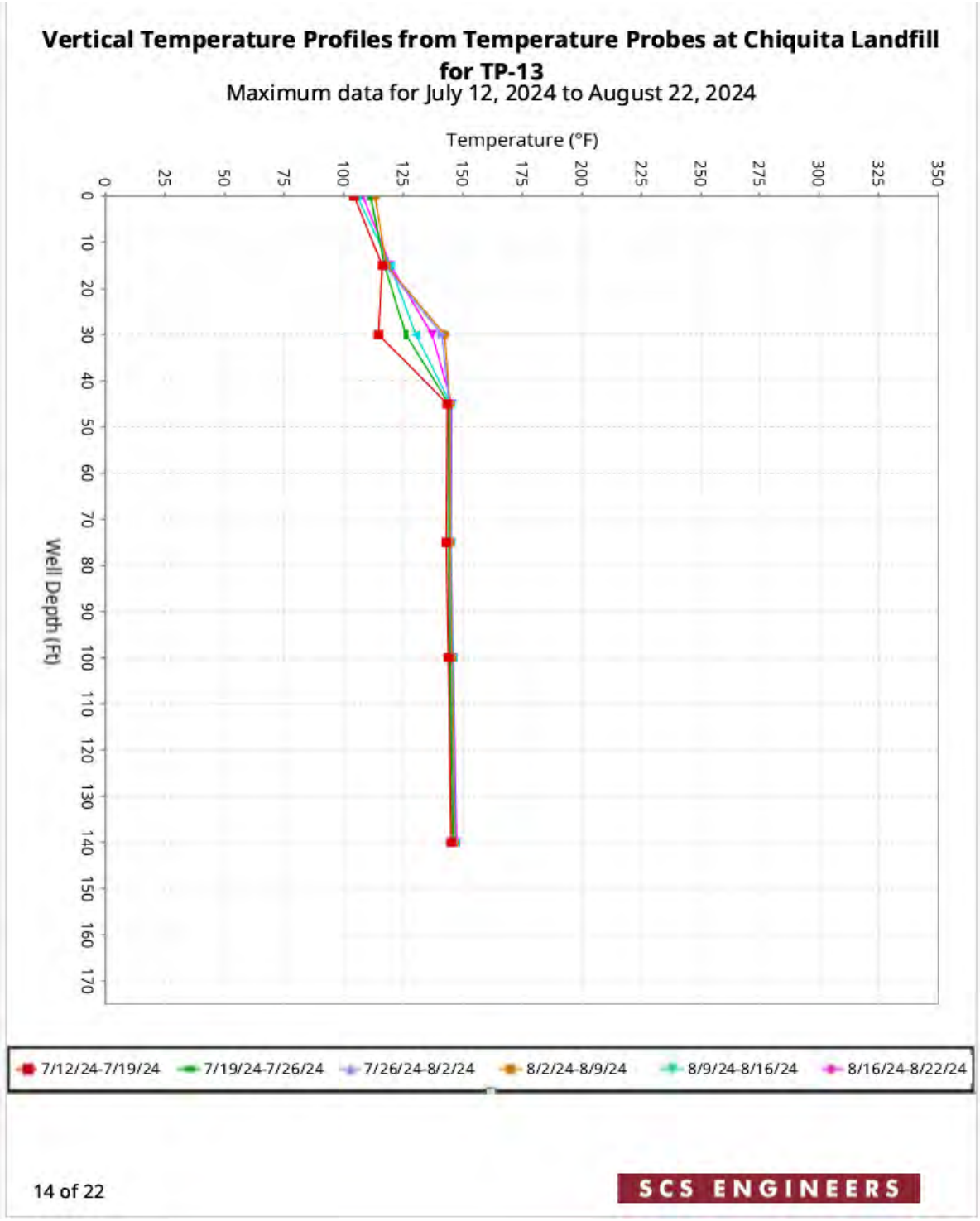

Figure 2. Temperature Spike at TMP-13 as Measured at 30 Feet from July 12 to August 16, 2024.

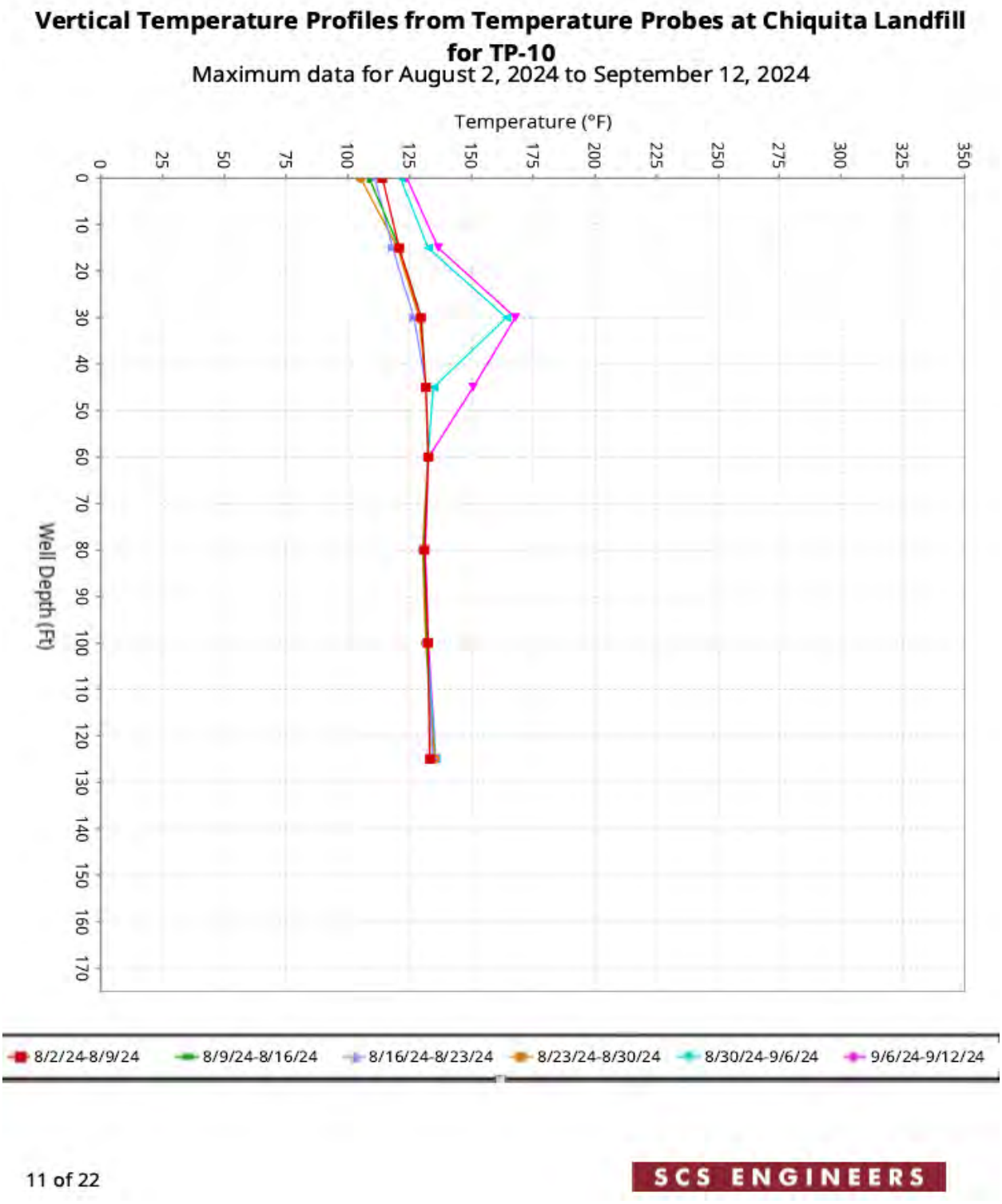

Figure 3. Temperature Spike at TMP-10 as Measured at 30 Feet from July 26 to September 12, 2024.

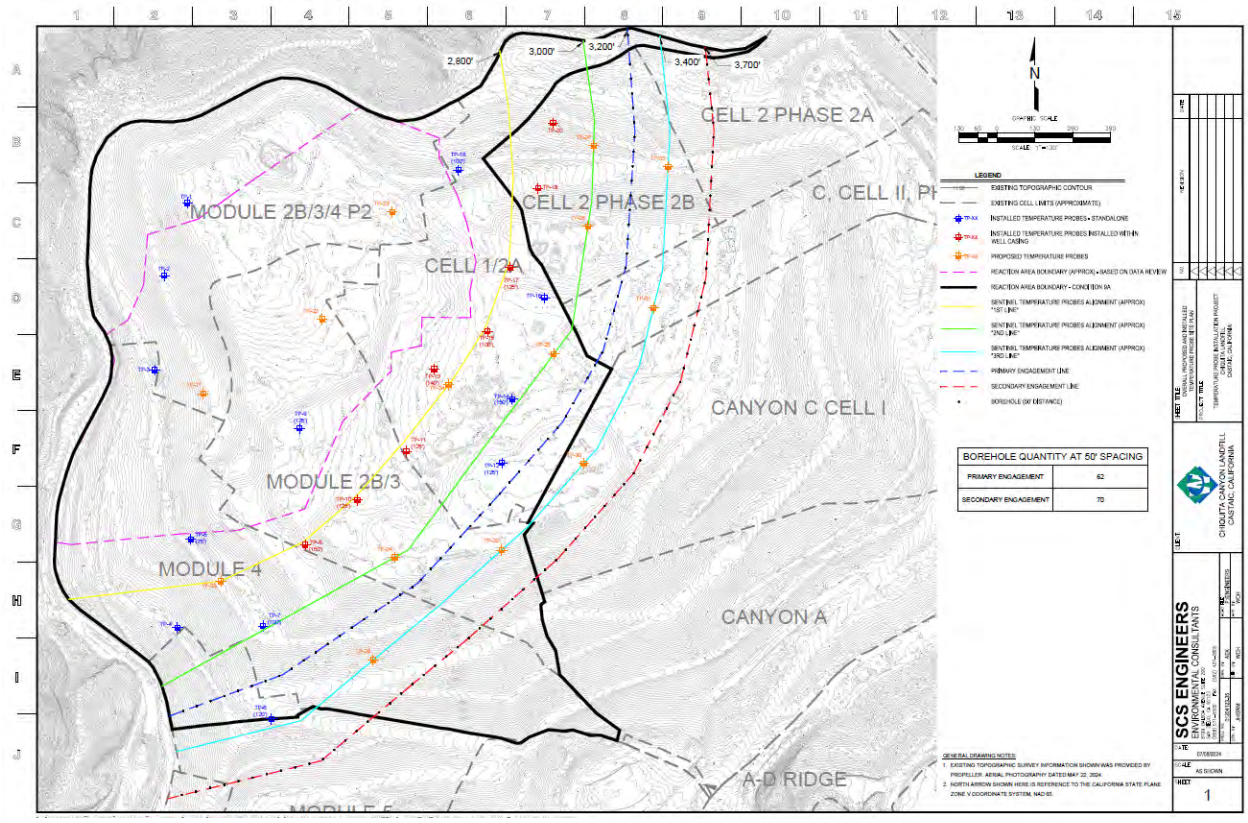

Figure 4. CCL's Temperature Probe Installation Project, Dated July 2024.

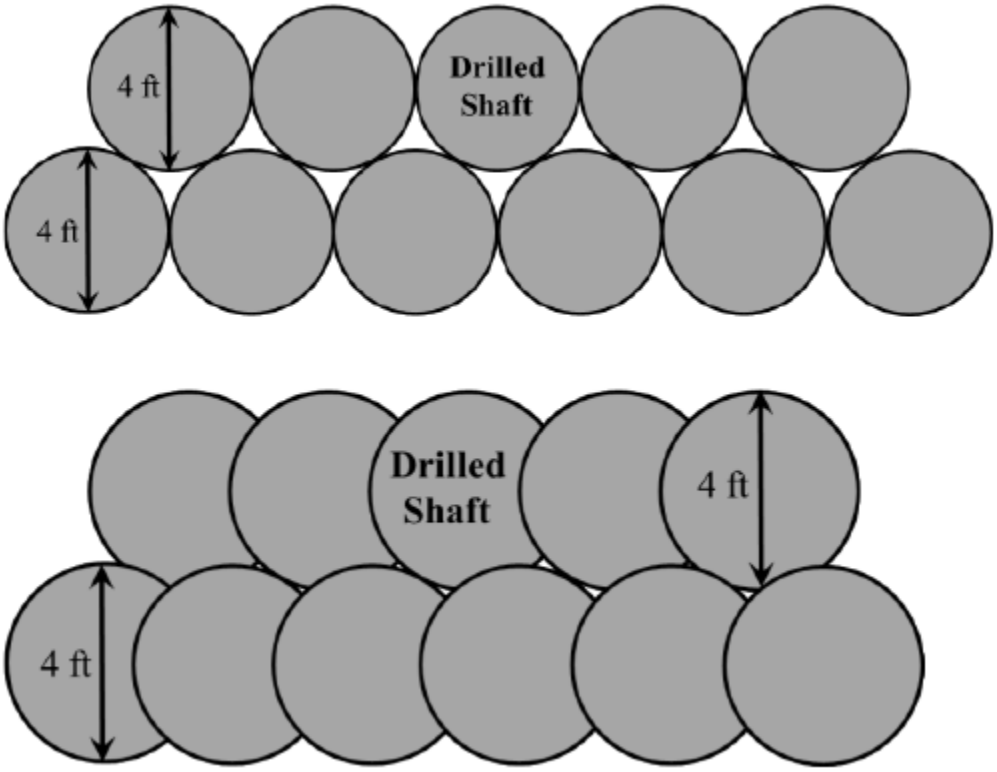

Figure 5. Vertical Shaft Barrier.

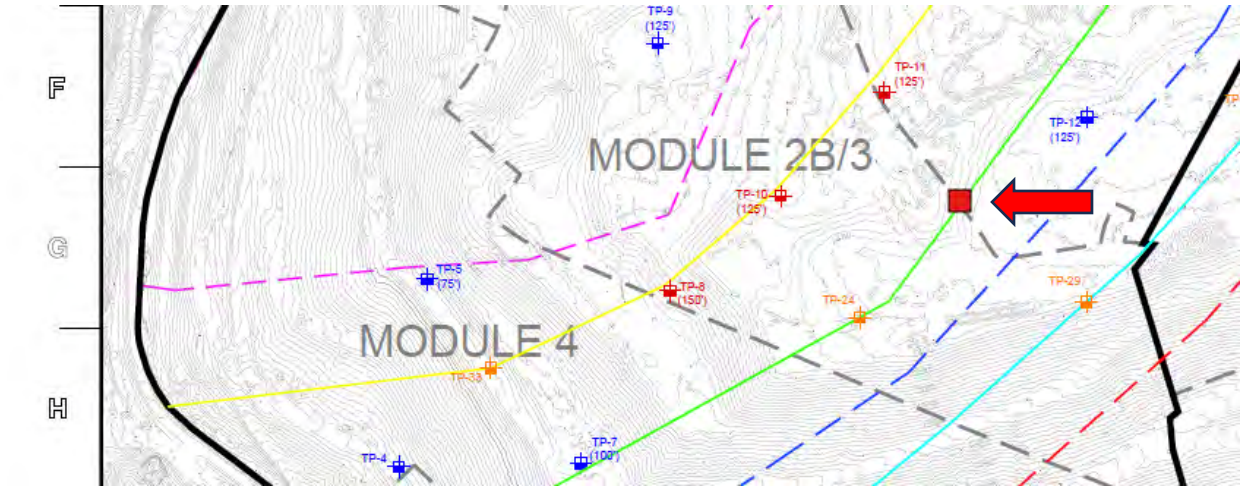

Figure 6. Location of Additional TMP Shown on the CCL's Temperature Probe Installation Project Map, Dated July 2024.

Exhibit 1. CCL's Proposed Threshold Criteria Limits.

Threshold Criteria Description	Limitation Value
Temperature	
In-Situ Waste Temperature	250°F
LFG Wellhead Temperature	190°F
Down Well Liquid/Gas Temperature	250°F
Temperature of Drill Tailings Removed from Borehole	N/A
Gas Composition	
Methane-to-Carbon Dioxide Ratio	< 0.75
Hydrogen	> 5.0%
Methane	< 30%
Carbon Monoxide	> 2,000 ppm
Dimethyl Sulfide	> 100 ppm
Benzene	N/A
Liquid Composition	
COD	> 30,000 mg/L
Settlement	
Strain Rate	> 3%/yr
Change in Historical Strain Rate	> 50%

Exhibit 2. CalRecycle-Recommended Threshold Criteria Limits to Install a Barrier for the CCL Project.

CalRecycle Threshold Criteria Description	Limitation Value
Condition 1. Temperature Only	
In-Situ Waste Temperature	> 230°F
Down Well Liquid/Gas Temperature	> 230°F
Temperature of Drill Tailings Removed from Borehole	> 250°F
Condition 2. Temperature Exceedances Requiring Additional Landfill Gas Sampling, LEA Notification, and Consultation.	
Temperature Spike at TMP or Wellhead Within 30 Days	> 50°F
LFG Wellhead Temperature or Down Well Temperature	> 190°F
Required LFG Data Criteria[1]	
Hydrogen	> 5.0%
Methane	< 15%
Carbon Monoxide	> 1,500 ppm

[1] LFG Data will be collected every 30 days for three consecutive sampling events from the vertical well or closest vertical well to the TMP. The four next closest vertical wells will also be sampled. Laboratory samples of LFG will be collected and analyzed for O_2, CO, H_2, CH_4, CO_2, and TO-15.

TIMOTHY D. STARK, Ph.D., P.E., BC.GE

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To: Mr. Matthew Dwyer
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Regional Manager
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9727 Business Park Drive, Suite A
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matthew.dwyer@errg.com

From: Timothy Stark, Ph.D., P.E., BC.GE, Dist.M.ASCE

Date: February 26, 2025

RE: Comments on November 26, 2024 Revised Soil Reaction Break/Barrier Plan and February 20, 2025 waste temperature data for Chiquita Canyon Landfill Subsurface Elevated Temperature (SET) Event

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Pursuant to your request and Task Order #1 under my contract with ERRG, I have reviewed the November 26, 2024 Revised Soil Reaction Break/Barrier Plan[1], waste temperature data provided by SCS dated February 20, 2025[2], and the weekly tracking of fissures and tension cracks in the impacted area dated February 17, 2025[3] and submitted by the Chiquita Canyon Landfill (CCL) operated by Waste Connections, Incorporated to the Legal Enforcement Agency (LEA) on February 25, 2025.

Landfill Location and Description:

The CCL is located at 29,201 Henry Mayo Drive, Castaic, California, in northern Los Angeles County. This facility is a Class III non-hazardous municipal solid waste (MSW) landfill. The 639-acre landfill site began accepting waste in 1972. The landfill can receive up to 12,000 tons of MSW per day. The average daily tonnage in 2021 was reported to be 6,412 tons. The CCL only accepts non-hazardous solid waste for disposal, including municipal solid waste, green waste for composting or recycling, construction and demolition debris, and e-waste for recycling. The facility is prohibited from accepting hazardous waste that is ignitable, corrosive, reactive, or toxic. The landfill also does not accept biohazardous waste, household hazardous waste, radioactive materials, incinerator ash, sludge, automobile shredder fluff, or liquid waste.

The landfill site is a former limestone quarrying and crushing operation which began in 1939 and ended in 1988. The quarrying resulted in two quarry pits, the North Quarry Pit and the South Quarry Pit, which were excavated to a maximum depth of 240 feet below ground surface (bgs). The north and south quarry portions cover an area of approximately 52 acres.

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[1] SCS Engineers, Revised Soil Reaction Break/Barrier Plan: Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, November 26, 2024, 198 p.
[2] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.
[3] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

Landfilling began in the North Quarry Pit in 1974 and continued in this area until 1985. In 1985, the landfill underwent expansion to the southwest into the area known as the South Quarry Pit. This continued until August 2005 when the landfill stopped accepting waste to reduce the potential for birds to interfere with nearby airport operations. The total waste thickness is approximately 320 feet which means about 80 feet is above ground surface and about 240 feet is below ground surface. The landfill accepted approximately 17,000,000 in-place cubic yards of waste, including commercial, and municipal solid wastes.

The permitted landfill disposal footprint totals 257 acres and is comprised of three separate areas designated as "Primary" Canyon, "Canyon B," and the Main Canyon (including Canyons A, C, D and subsequent fill modules). Currently, 231 acres of the footprint have been used for disposal. All areas except the Primary Canyon have geosynthetic bottom liner systems and leachate collection and removal systems. Leachate is collected and trucked off-site, but condensate from the gas extraction wells is injected into the flare.

Revised Barrier Plan:

The Revised Barrier Plan states a:

> "discrete portion of the waste mass in the northwestern section of the Landfill is experiencing elevated temperature landfill (ETLF) conditions. ETLF conditions can generally be characterized as when the typical waste decomposition processes and corresponding methanogenesis associated with anaerobic digestion of organic solid waste materials disposed in a landfill are impeded because of heat accumulation. As a result, certain abiotic (non-biological) processes and chemical reactions within the buried wastes occur instead."

Even though SCS Engineers (SCS) claims the Subsurface Elevated Temperature (SET) Event only is impacting a "discrete portion of the waste mass", they review five options for isolating and containing the SET Event to impede heat flow into other adjacent portions of the waste mass. These five options are:

(1) Air Break through avoidance of placement of additional waste lifts overlying existing buried wastes.

(2) Air Break through excavation to "cut out" existing buried wastes.

(3) Soil Barrier through placement of soil layer atop existing landfill surface.

(4) Soil Barrier through excavation and backfilling of a deep trench.

5) Inert Material Barrier through Borehole Drilling, Dewatering, and Flowable Fill Injection.

SCS concludes an air break through avoidance of additional waste placement (option #1) or excavation (option #2) are "implausible" and thus are not being pursued by CCL. In addition, SCS deemed option #4 (soil barrier through excavation and backfilling) "implausible", and the technology involved in introducing an inert material for Option #5 "uncertain". As a result, options #4 and #5 are not being pursued by CCL.

Option #3 was deemed by SCS to be the "most plausible and may accomplish the desired objective without incurring substantial environmental and safety risks." Option #3 simply involves placing additional soil over the top of the landfill, i.e., to create a thicker soil cover. This option will be less effective for controlling odors and emissions from CCL than a geomembrane cover (discussed below) because of many issues including inadequate soil compaction especially on the sideslopes, differential settlement causing cracks in the soil cover, and creation of desiccation cracks during the hot and dry months.

The Revised Soil Reaction Break/Barrier Plan[4] was issued on November 26, 2024, which is important because CCL claims:

> "CCL has implemented extensive mitigation measures that reduce the likelihood that CCL will need to construct any form of the various reaction break concepts, including CCL's proposed additional mitigation measures. Previous experience at other ETLF landfills demonstrates that landfill reactions and resulting odors have been mitigated by best management practices, including increased gas extraction and liquid removal (e.g., through expanding systems and providing adequate LFG control capacity and leachate disposal capacity). Another best management practice is to improve cover integrity, which reduces infiltration of precipitation and limits the amount of excess liquids available to sustain various chemical reactions. Implementing these measures will help slow the reaction, impede the spread of the reaction to new areas, and mitigate impacts."

> "Further, Chiquita is constantly monitoring the landfill for signs of potential ETLF conditions so that it can react quickly in the event of changing conditions. CCL and SCS are confident that implementation of the best management practices developed by the landfill industry and EPA to contain and manage the reaction will succeed in slowing the propagation of the reaction area. Other landfills that have experienced widespread ETLF heating events during the past approximately 15 years have

[4] SCS Engineers, Revised Soil Reaction Break/Barrier Plan: Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, November 26, 2024, 198 p.

> successfully utilized these tools to contain those events. Continued application of the current mitigation measures will result in cooling of the buried wastes, which enable methanogenesis to ultimately be re-initiated within a large section of the affected waste mass. This in turn will mitigate and abate the detrimental impacts, such as odors, being experienced by surrounding off-site communities."

Unfortunately, the waste temperature data released on February 20, 2025[5] shows these "best management practices" have not "helped slow the reaction, impede the spread of the reaction to new areas, and mitigate impacts" as claimed by CCL and SCS above, as discussed in the next section. In summary, the removal of "hot" gas and leachate has not been successful in containing the SET Event.

Summary of Recent Temperature Data

SCS presents Waste Borehole Maximum Temperature Profiles Over 6 Weeks from January 9, 2025 to February 19, 2025.[6] An aerial image of CCL with a table of maximum temperatures is included in the subject SCS Report and reproduced in **Figure 1**. I have placed the maximum waste temperature from the table in **Figure 1** adjacent to some of the gas extraction wells to facilitate understanding the extent of the SET Event, especially on the east side of CCL. **Figure 1** shows waste temperatures of 183^0F and 185^0F at the eastern side of the top deck of the CCL. This means the SET Event has migrated from the western slope (TP03) to the eastern side of the CCL (TP31). Expansion of the SET Event has the following implications:

- Elevated temperatures (185^0F to 189^0F) surround the leachate tank farm (see red arrow in **Figure 1**). This area is going to undergo significant settlement, if it has not already started to do so, due to thermal breakdown of the buried waste. This settlement will cause differential movement of the leachate tanks, which could result in a leachate release. As a result, I recommend the leachate tank farm be moved off the top deck and to a site off the CCL and on native soil because the SET Event continues to expand.

- Waste temperatures of 183^0F and 185^0F are already present on the eastern side of the top deck of the CCL. As a result, it is not possible to "isolate and contain" this SET Event using a north-south vertical barrier as previously discussed. Thus, the only option for controlling odors and emissions is to cover the area with a geomembrane (discussed below) over which the temperature monitoring probes (TPs) have been installed. This means the geomembrane should cover from the west to the east side of the CCL and from the north

[5] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.
[6] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.

end to just south of TP06 shown in **Figure 1**. In other words, the exposed geomembrane cover would cover about 183 acres and leave only about 13 acres at the southern end of the CCL uncovered for current disposal operations.

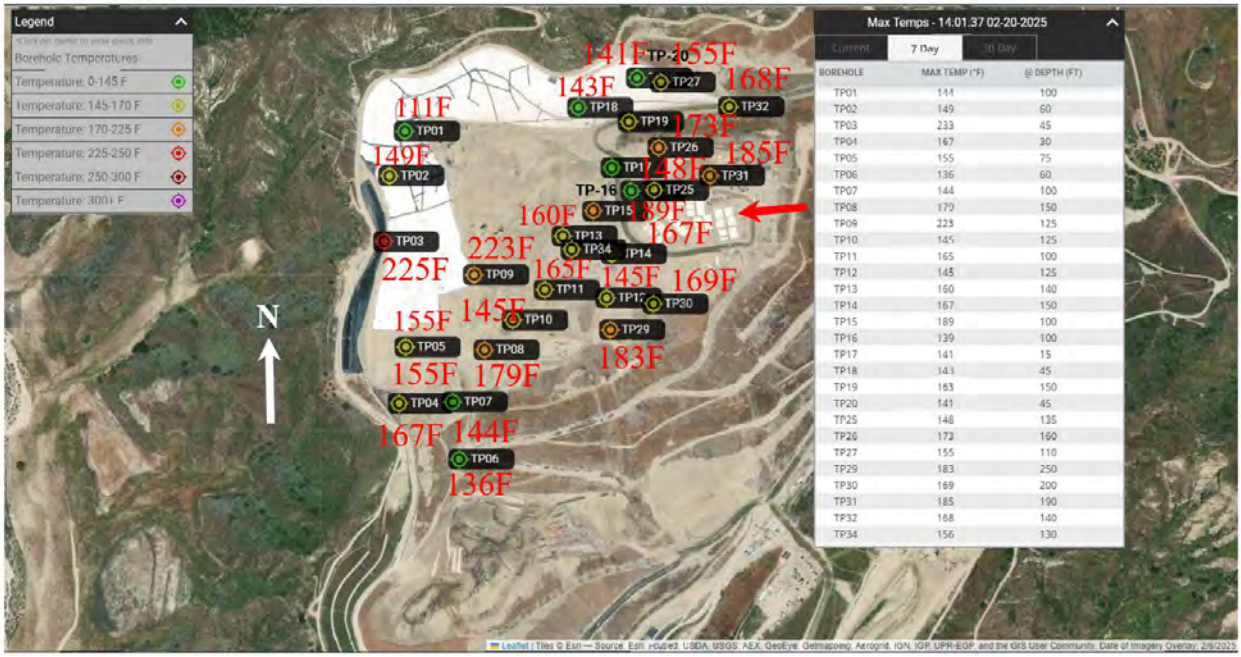

Figure 1. Temperature profiles over six weeks from 1/9/2025 to 2/19/2025 from SCS report dated February 20, 2025.

Figure 2 presents Sheet #1 from the SCS Report that presents the Waste Borehole Maximum Temperature Profiles Over 6 Weeks from January 9, 2025 to February 19, 2025.[7] The dashed pink line represents the extent of the SET Event as determined by SCS on February 20, 2025. This extent is slightly larger than the dashed blue line, which represents the extent of the SET Event on March 27, 2024 as reported by SCS in the initial Soil Reaction Break/Barrier Plan.[8] **Figure 2** also presents my extent of the SET Event as of February 26, 2025 (see dashed red line) based on the Waste Borehole Maximum Temperature Profiles Over 6 Weeks from January 9, 2025 to February 19, 2025.[9] **Figure 2** shows the western slope and entire top deck of the CCL is now part of the

[7] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.
[8] SCS Engineers, Soil Reaction Break/Barrier Plan, Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, March 27, 2024, 17 p.
[9] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.

SET Event, which is a significant increase over the extent reported by SCS on March 27, 2024[10] and February 20, 2025.[11] Based on **Figure 2**, SCS believes the SET Event only covers about 28 acres as of February 20, 2025 whereas my extent of the SET Event covers about 90 acres.

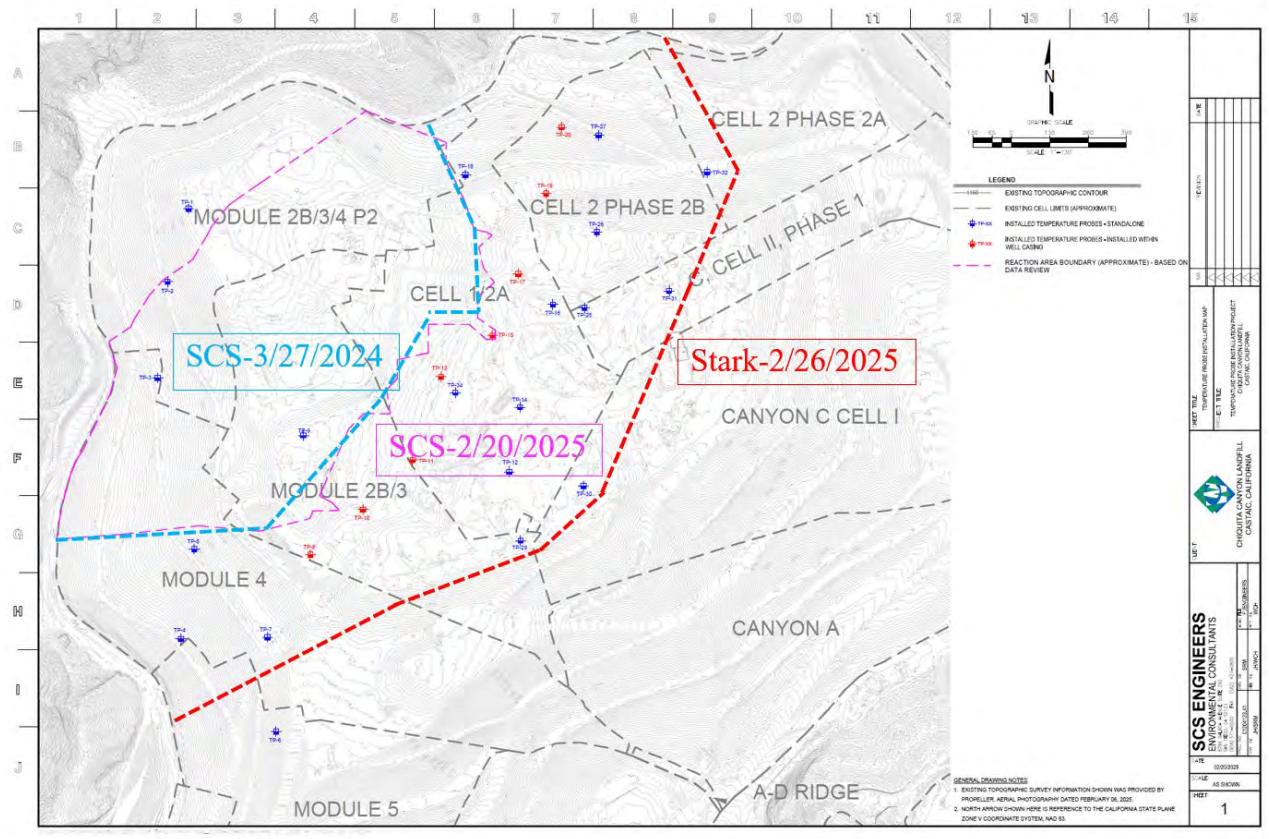

Figure 2. Extent of elevated temperatures from March 27, 2024 to February 26, 2025.

[10] SCS Engineers, Soil Reaction Break/Barrier Plan, Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, March 27, 2024, 17 p.
[11] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.

Weekly Fissures and Tension Cracks Report Dated February 17, 2025

CCL also presented their 4050 – Chiquita Reaction Area Tracking of Fissures and Tension Cracks weekly report on February 17, 2025[12]. This report presents: (1) observations of new fissures and tension cracks, which are usually due to landfill settlement and/or slope instability, (2) exposed geomembrane tears and defects, and (3) other geosynthetic cover issues.

This weekly report dated February 17, 2025[13] confirms that settlement has started to occur around the leachate tank farm, which reinforces the recommendation above that the tanks should be moved off the top deck and to a site off the CCL and on native soil. In particular, Area #148, which is just north of the tank farm (see red dot in **Figure 3**), experienced opening of significant fissures and tensions cracks that have been remediated but are likely to reappear as additional buried waste undergoes thermal breakdown. Area #154, which is located just south of the tank farm (see **Figure 3**), also recently experienced fissuring and tension crack development. Even more concerning is Area #147 experienced a significant sinkhole, which indicates a significant thermal breakdown of buried waste that resulted in a void developing below the interim soil cover. Area #147 is the next grid area north of Area #148.

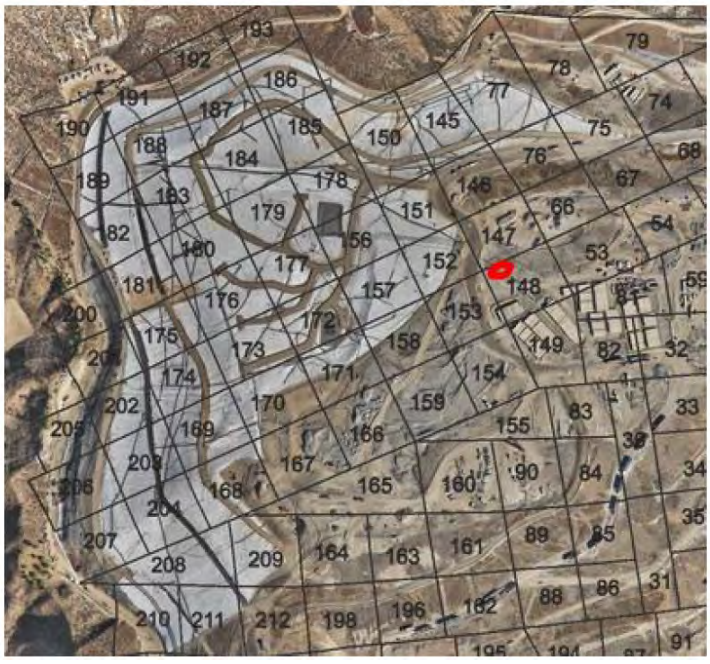

Figure 3. Red dot shows location for fissures and tension cracks identified in weekly CCL report dated February 17, 2025[14].

[12] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[13] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[14] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

Figure 4 shows a tension crack in Grid #148 near the leachate tank farm on the top deck of the CCL. This photograph also reinforces the recommendation above that the tanks should be moved off the CCL. This photograph was taken during a South Coast Air Quality Management District (SCAMD), Inspection of the CCL on February 27, 2025.

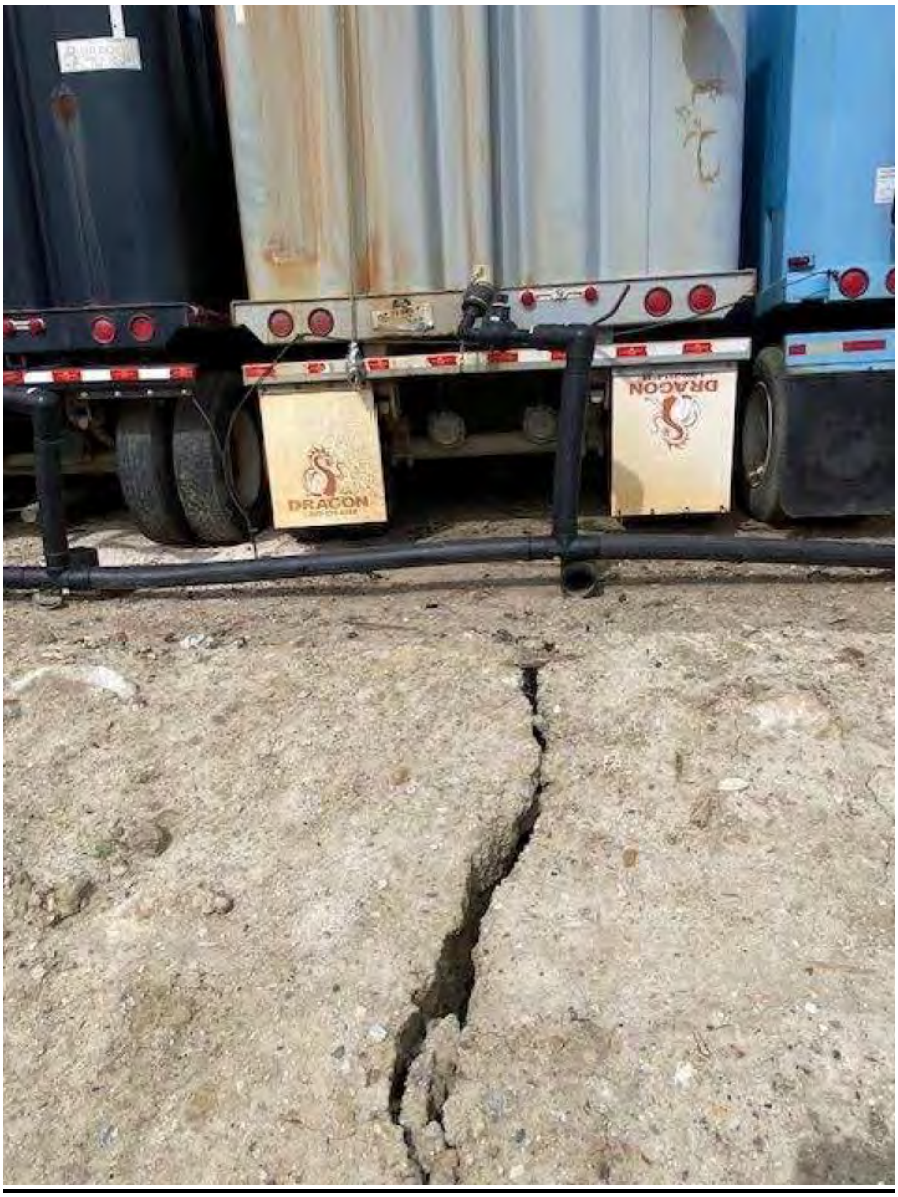

Figure 4. Photograph of tension crack in Grid #148 near leachate tanks on top of CCL dated February 27, 2025[15].

[15] South Coast Air Quality Management District (SCAMD), Inspection Report - Chiquita Canyon Landfill, by Larry Israel, Gerardo Vergara, and Christin Ojeda, February 27, 2025, 21 p.

The weekly report dated February 17, 2025[16] also discusses recent tears and defects in the exposed 30 mil thick white HDPE geomembrane cover. In particular, this weekly report presents photographs of four significant tears in the exposed geomembrane. For example, **Figure 5** presents two of these tears, which were repaired using an extrusion welded patch. Unfortunately, the location of these two tears is not identified in the weekly report dated February 17, 2025[17]. This indicates the 30-mil thick white HDPE geomembrane may be deteriorating in the presence of the SET Event temperatures and related activities and equipment, which is discussed below.

Figure 5. Photographs of exposed geomembrane tears identified in weekly CCL report dated February 17, 2025[18].

The weekly report dated February 17, 2025[19] also discusses other "Geosynthetic Cover" issues. In particular, this report presents fourteen photographs illustrating "instability under the cover".

[16] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[17] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[18] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[19] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

For example, **Figure 6** presents two of these photographs, which show settlement under the geomembrane due to thermal breakdown of the buried waste.

Figure 6. Photographs of other exposed geomembrane issues identified in weekly CCL report dated February 17, 2025[20].

Temporary Exposed Geomembrane Cover

Given the west side and top deck of the CCL are experiencing elevated temperature, I unfortunately think the only remedial option is to cover the entire landfill north of TP06 or north of the red and blue dashed line shown in **Figure 7**. The elevated temperatures have not manifested themselves on the eastern slope yet, but I anticipate leachate outbreaks could start occurring because elevated temperatures (183^0F and 185^0F as shown in **Figure 1**) are present at the crest of the eastern slope.

Currently, CCL is using a 30-mil thick high-density polyethylene (HDPE) geomembrane with a white reflective and textured surface. This geomembrane was manufactured by Solmax and shipped in 22.5 ft wide rolls from Canada to the CCL. An Ethylene Vinyl Alcohol (EVOH) geomembrane has been found to be better at containing odors and omissions during other long-term SET Events, e.g., Bridgeton Landfill. EVOH geomembranes are manufactured as a "sandwich" with the outside layers comprised of HDPE with an inner layer of semi-crystalline thermoplastic resin that resists odor and gas transmission.

Bridgeton Landfill near St. Louis has been experiencing a SET Event since 2011 and is covered with green colored 60 mil thick EVOH geomembrane. Given there is no mechanism to "isolate and contain" the CCL SET Event, I am anticipating this facility will continue to generate odors and emissions for many years to come. As a result, I recommend the CCL consider installing an

[20] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

exposed EVOH geomembrane over the area to the north of the red and blue dashed line shown in **Figure 7**.

The exposed EVOH geomembrane could consist of a tan (easier to UV stabilize, reduces heat, and better matches dry surroundings) or green (less visible during wet periods) 40 or 60 mil thick EVOH textured geomembrane underlain be a minimum 6 ounce per square yard (oz/sy) nonwoven geotextile. A tan EVOH geomembrane color is recommended because there are number of tan geomembranes that have been in exposed for a number of years, so a suitable UV stabilized formulation is available.

The EVOH geomembrane should be continuously seamed and continuously tied into the existing exposed 30 mil HDPE geomembrane cover along the top deck. The EVOH geomembrane can be welded to the existing 30 mil thick HDPE exposed geomembrane because the outside layers are comprised of HDPE and thus can be welded with traditional HDPE welding equipment. As the existing 30-mil thick exposed white HDPE geomembrane deteriorates with time, it should be replaced with the selected EVOH geomembrane.

The selected EVOH geomembrane (GM) should have a life span of about 10 years due to the large amount of waste that is being impacting by the SET Event. Given the long and steep slopes, a double-sided textured EVOH GM may be required. However, to facilitate walking on the EVOH GM, the exposed side should probably be textured. The EVOH GM also should be able to withstand a temperature of about 180^0F because TP15 is showing a waste temperature of 175^0F at a depth of only 15 feet. Finally, the EVOH GM should exhibit a methane permeance of less than $2.5x10^{-13}$ m/s obtained using ASTM D1434[21] to control benzene and other emissions.

The total area proposed for the EVOH geomembrane cover is about 100 acres, i.e., the area not covered with the 30-mil thick white HDPE geomembrane. The nonwoven geotextile underlying the EVOH geomembrane will be installed on a prepared subgrade and provide a cushion and gas and liquid transmission layer under the geomembrane. Alternatively, a geonet with two heat-bonded nonwoven geotextiles could underlie the EVOH geomembrane and provide a higher transmissivity than a geotextile.

The EVOH geomembrane could be installed by deploying the manufactured rolls across the top deck and down the sideslopes. The perimeter edge of the new EVOH geomembrane cover will either be welded to the existing 30 mil thick white HDPE geomembrane or anchored along the perimeter of the CCL. Of course, the CCL should design appropriate long-term ballasting for the existing HDPE geomembrane and the proposed EVOH geomembrane because of the long duration of other SET Events. The EVOH geomembrane should be installed by an experienced contractor

[21] ASTM D1434-23, Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428, https://compass.astm.org/document/?contentCode=ASTM%7CD1434-23%7Cen-US&proxycl=https%3A%2F%2Fsecure.astm.org&fromLogin=true.

and crews in accordance with CCL project specifications and an accompanying QA/QC Plan. Given the long-term application of the EVOH geomembrane, the installation should be monitored in accordance with the QA/QC Plan by an experienced third-party engineering firm. A final certification report should be prepared under the direction of a certified engineer and be submitted to the CCL and proper local authority, e.g., Los Angles Regional Water Quality Control.

Pipe penetrations of the HDPE and EVOH geomembrane cover should be sealed utilizing a suitable pipe boot and pipe clamp or seal. These boots can be the source of significant odor release and/or oxygen intrusion so these pipe boots and seals should be inspected and monitored regularly for vapor emissions so defects due to total and differential can be remediated quickly.

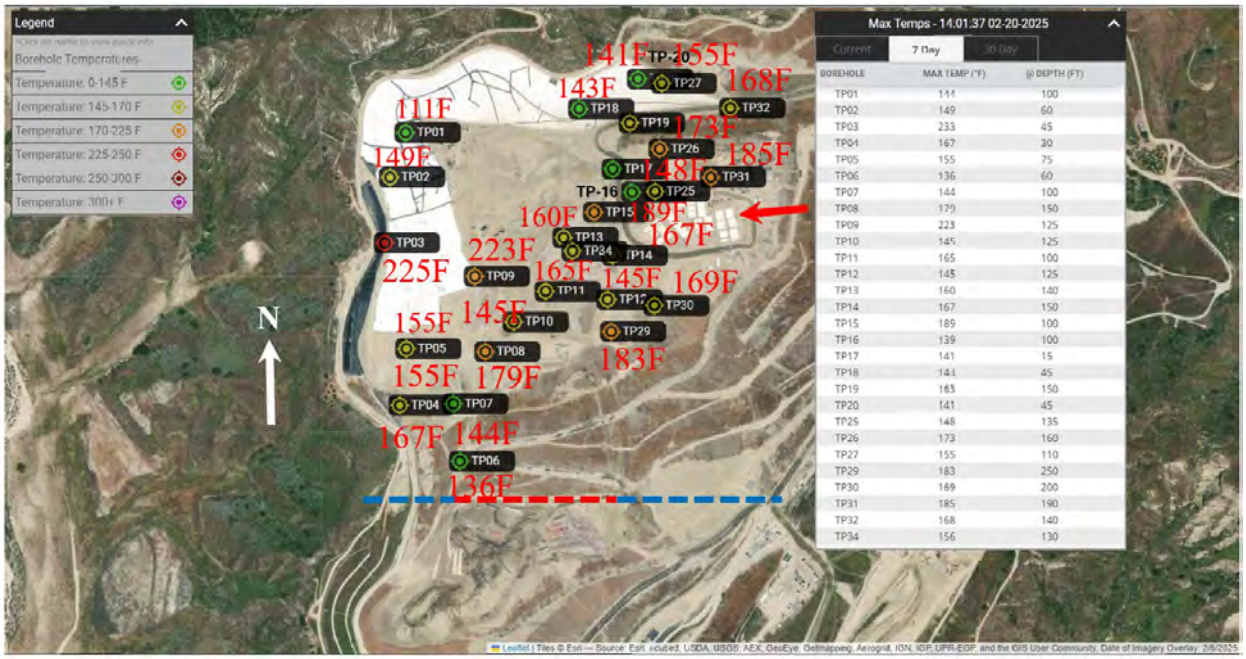

Figure 7. Extent of elevated temperatures on February 26, 2025 and location of a possible vertical barrier to isolate southernmost 13 acres.

Proposed Vertical Barrier

This section discusses installing a thermal barrier south of TP06 (see dashed red and blue line in **Figure 7**). A thermal barrier is recommended along the dashed red and blue line in **Figure 7** for at least the following reasons:

- CCL is using the approximately 13 acres south of the dashed red and blue line in **Figure 7** for disposal operations so elevated temperatures should be prevented from reaching this area, so the landfill continues to have an area to dispose of on-site wastes.

- Ensure continued ingress and egress from the CCL.

- Reduce the amount of waste that can be consumed by the SET Event and thus reduce the duration of odors and emissions to the surrounding communities.

- Maintain stability of the southern sideslope.

The red dashed line in **Figure 7** roughly delineates the location of a thermal barrier already constructed by CCL. The extent and depth of the thermal barrier are not known, so I request this information be provided by CCL. The blue dashed lines in **Figure 7** indicate the existing thermal barrier should be extended east and west so the SET Event cannot go around or under the existing thermal barrier.

If the existing thermal barrier does not extend to near below the leachate level, vertical elements can be used to create a vertical thermal barrier to prevent the SET Event from impacting the southernmost 13 acres of the CCL. The vertical elements involve excavating a vertical shaft using a three or four-foot bucket auger drill rig, which is being used to install gas extraction wells at CCL. These vertical elements would be constructed along the dashed red and blue lines in **Figure 7**. After excavating the shaft, it could be backfilled with a soil-bentonite or soil-cement mix. The shafts would be tangent, i.e., touching, or overlapped (see **Figure 7**) to create a continuous barrier across the toe of the southern sideslope to prevent the SET Event from consuming the southernmost 13 acres. If heat transfer calculations require a wider thermal barrier, a second row of vertical elements could be constructed north or south of the initial row (see **Figure 7**). The secondary row would be tangent to the initial row and be centered at each intersection of the initial row as shown below (see **Figure 7**).

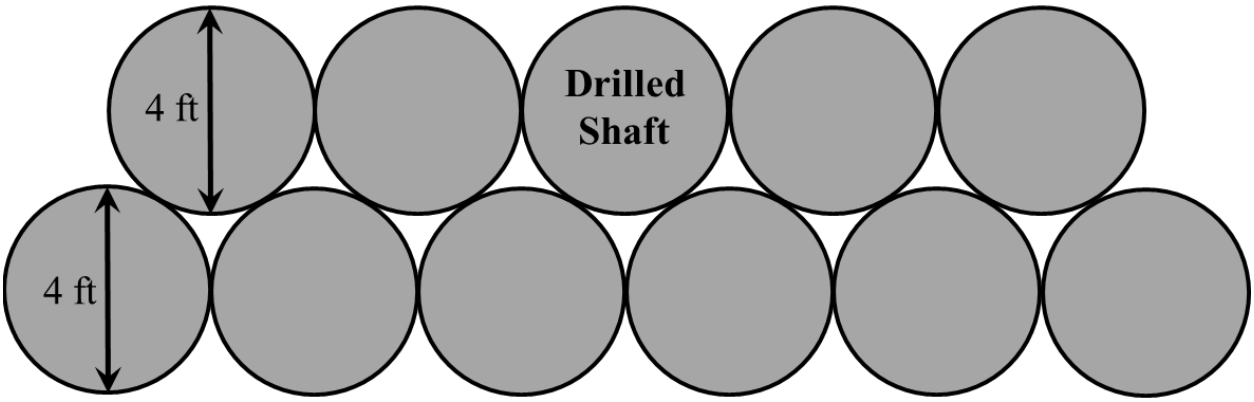

Figure 8. Possible configurations of 3 to 4 ft diameter vertical elements to comprise a heat barrier system south of TP06 to isolate southernmost 13 acres.

Summary

This section summarizes the main findings and recommendations presented in this report:

1. SET Event has expanded to the east side of the top deck of the CCL,
2. Leachate Tank Farm should be relocated off the top deck because the CCL is undergoing settlement under the tanks,
3. Due to the movement of the SET Event, the Tank Farm should be relocated to a site off the CCL and on native soil,
4. Given the extent of the SET Event, install 40 or 60 mil thick tan or green HDPE EVOH textured geomembrane underlain by a minimum 6 ounce per square yard (oz/sy) nonwoven geotextile over the approximately 100 acres currently exposed and weld it to the existing 30-mil thick white HDPE geomembrane or place it in a suitable anchor trench,
5. Submit a Request For Information (RFI) regarding the current extent and depth of the thermal barrier installed near the southern end of the CCL (see red dashed line in **Figure 7**), and
6. Expand the current thermal barrier so it reduces the potential for the SET Event to impact the southernmost 13 acres of the CCL.

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April 1, 2025

Via Electronic Correspondence

Mr. Steve Cassulo, District Manager
Steven.cassulo@wasteconnections.com
Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, CA 91384

Dear Mr. Cassulo,

On November 26, 2024, the Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), received Chiquita Canyon Landfill's (CCL) third revision of the Soil Reaction Break/Barrier Plan (SRBBP), dated November 26, 2024. The SRBBP was submitted to comply with Milestone 1-A1 of the LEA Compliance Order issued on June 6, 2024. On December 24, 2024, the LEA requested additional information from CCL to complete its technical review. CCL provided a response on January 24, 2025.

The LEA, in consultation with CalRecycle, has reviewed the SRBBP and CCL's additional information.

The SRBBP does not propose a physical barrier, as directed in the June 6, 2024 Compliance Order, but instead relies on gas and leachate removal for control and containment. However, no thermodynamic analysis has been provided to demonstrate the effectiveness of these measures. Temperature trends in multiple Temperature Monitoring Probes (TMPs) indicate ongoing reaction activity, particularly in areas with significant distances between gas extraction wells, such as the reaction boundary near Tank Farm #9 and TMP-17. Given the evidence of ongoing reaction activity, and no thermodynamic analysis, the LEA does not believe that gas and leachate removal alone is appropriate to contain the reaction.

Additionally, CalRecycle is not aware of any published studies supporting gas and leachate removal as a standalone containment strategy for a Subsurface Elevated Temperature (SET) Event. CCL's evaluation also confirmed that no internal barrier exists to prevent the reaction from spreading throughout the facility. For further discussion on these findings, refer to the attached CalRecycle Letter dated March 28, 2025.

Based on the reviewed documents and site data, the LEA is issuing the following response and directives to address the ongoing SET Event, ensure regulatory compliance, and prevent further impacts:

1. **Containment and Cover System:** Install a 40- to 60-mil thick tan or green HDPE-EVOH textured geomembrane underlain by a minimum 6 oz/sy nonwoven geotextile over approximately 100 acres outside the existing geomembrane cover. This new barrier must be welded to the existing 30-mil-thick white HDPE geomembrane or placed in a suitable anchor trench. A construction and quality assurance/quality control (QA/QC) plan must be submitted for approval.
2. **Relocation of Leachate Tank Farm 9:** Leachate Tank Farm 9 must be relocated off the top deck to an area unaffected by the SET Event, both currently and in the future.
3. **Preventing Expansion into Cell 8A:** The SET Event must not expand into Cell 8A. To prevent this, the previously constructed soil barrier must be extended to connect the western and eastern edges of Cell 8A. This barrier should serve as a thermal block and eliminate any waste connection between Cells 6 and 8A. This measure is critical to maintaining space for a potential soil buttress for slope stabilization and continued disposal operations in Cell 8A.
4. **Additional TMPs:** Five new TMPs must be installed at locations specified in Attachment A of the CalRecycle Letter.

This letter serves as the LEA's initial response to the SRBBP. Please note that the LEA is preparing an official Notice and Order, which will formally establish compliance deadlines for these directives. The LEA reserves the right to modify these directives as new data becomes available.

If you have any questions, you may contact me at kgork@ph.lacounty.gov.

Sincerely,

Karen Gork
Chief Environmental Health Specialist
Lost Angeles County LEA

Enclosure: CalRecycle review letter dated March 28, 2025

CC: (Via Electronic Correspondence Only)

- Robert Ragland, Los Angeles County Department of Public Health
- Liza Frias, Los Angeles County Department of Public Health
- Nichole Quick, M.D., Los Angeles County Department of Public Health
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Resources Recycling and Recovery

Yana Garcia
Secretary for Environmental Protection
Zoe Heller
CalRecycle Director

March 28, 2025

Karen Gork
Chief Environmental Health Specialist
Los Angeles County Department of Public Health
5050 Commerce Drive
Baldwin Park, California 91706

Subject: Review of the November 26, 2024, Revised Soil Reaction Break/Barrier Plan for the Chiquita Canyon Landfill Subsurface Elevated Temperature (SET) Event

Dear Ms. Gork:

CalRecycle staff is providing this letter in response to your request for technical assistance in reviewing the subject analysis to determine the next course of action.

The following comments are provided to the Los Angeles County Department of Public Health, a Local Enforcement Agency (LEA), as assistance in supporting the program in carrying out its responsibilities at permitted disposal sites. The final determination as to the comments to be provided to the responsible party is within the sole purview of the LEA, acting within the parameters of its discretion, in accordance with its vested authority under its certification as defined in Title 14, California Code of Regulations (14 CCR), Division 7, 27 CCR, Division 2, Subdivision 1 (Section 20005 et seq.), and Division 30 of the Public Resources Code.

Review Background

On March 27, 2024, the CCL submitted its initial Soil Reaction Break/Barrier Plan (Work Plan) to the United States Environmental Protection Agency (USEPA) in accordance with Condition No. 22.c.2 of the Unilateral Administrative Order EPA Docket No. RCRA 7003-09-2024-001 and CERCLA 106-09-2024-05 and to the Los Angeles County Department of Public Health Solid Waste Management Program [solid waste Local Enforcement Agency (LEA)] as required in Mitigation Measure #1A. The LEA provided comments on the Work Plan in a letter dated May 3, 2024. The LEA requested that the revised CCL Barrier plan address the

following:

1. Installation of an air/soil break that separates the waste with either an inert material or with an air break.
2. Investigate how each cell or phase was constructed and examine if air/soil breaks between cells/phases can be exploited. The investigation should include a review of where haul roads were constructed to determine if the inert roads can also be used as breaks. Information from the investigation should be used to develop where containment breaks should be placed.
3. Propose a set of criteria for the primary and secondary engagement lines, including the type of reaction breaks, barriers, and/or mitigations. These criteria shall be based on temperature, carbon monoxide levels, and possibly settlement rate. The primary engagement lines need to prevent the reaction from spreading in the main fill area close to the reaction. The secondary engagement lines need to prevent the reaction from entering the eastern and southern fill areas at the toe of the slope.
4. Construction plans for reaction breaks in the 160-arce main fill area. The reaction break plans should include timelines and a construction method that aligns with the timelines and engagement lines.
5. Include the construction of reaction breaks/barriers between Canyons C, A, D, and Cell 5 in the event the reaction reaches the secondary engagement lines.
6. Use the best available technology, such as grout injection, to slow or contain reaction movement to the south and east.
7. Description of the criteria that will mandate the temporary suspension of placing new waste.

On July 8, 2024, CCL submitted a response regarding the LEA's comments. On September 20, 2025, CalRecycle staff again provided comments and recommendations to the LEA regarding the second Barrier Plan submitted by CCL. In general, the letter outlined the criteria for defining the reaction area, the expansion of the SET Event, and for installing a barrier, and included barrier strategies, additional temperature probe installations, and measures to limit oxygen intrusion during landfill gas collection and control operations.

On November 26, 2024, CCL submitted the third Work Plan to the LEA. CalRecycle staff requested the following information to complete their review on December 16, 2024:

1. All downwell gas temperature data collected for 2023 and 2024 were per New Source Performance Standards (NSPS) protocols.
2. All gas well data, both vertical and horizontal, from SCS E-tools, including notes in an EXCEL format for 2023 and 2024 up to December 12, 2024.
3. Current gas collection map showing vertical and horizontal wells.
4. Access to the forward-looking infrared (FLIR) Images from October and December via the FLIR web portal.

5. Landfill Gas (LFG) Operational Manual for CCL.
6. Resubmittal of the Revised Soil Reaction Break/Barrier with a registered professional signature(s) as required by the California Professional Engineering Act.

As of March 24, 2025, the CCL has not provided the information requested in items 1, 4, and 5. In addition, the CCL provided most of the landfill gas data in Excel format, but did not include the notes section. Of the requested 34 downwell temperatures, only eight were provided because five were abandoned and the remaining 21 had Lorenz Pumps installed and the data was not available. The temperature data from the Lorenz Pumps is not NSPS compliant because the temperature is reported from only one depth and not at required 10-foot intervals. Neither data set is fully sufficient to adequately track the SET Event.

Subsurface Elevated Temperature Event Causes

SET Events are caused by several mechanisms, including air intrusion, spontaneous combustion, surface fires, smoldering, and/or reactive waste. A SET Event can generate significant heat through combustion or the exothermic reaction of waste, causing pyrolysis in surrounding materials such as plastics, paper, wood, cardboard, and other flammable substances. It is important to note that pyrolysis[1] is the chemical degradation of a substance by heat. In fire science, this refers to the fire stage before combustion, without requiring the presence or absence of oxygen. Combustion[2] is defined as a self-sustained, high-temperature oxidation reaction.

Most SET Events are typically caused by excessive oxygen into the waste mass near or on a side slope. SET Events can start locally at a gas extraction well, area of cap erosion, or other features that allow oxygen to enter the waste mass. If not adequately addressed, the SET Event may become a smolder and spread to the entire landfill facility if it is not isolated and contained.

The definition of a SET Event varies among landfill owners, consultants, and regulators. However, all include elevated temperatures in the municipal solid waste (MSW) increasing to a threshold, which begins to stress the biochemical decomposition processes. Some landfill operators attempt to change the terminology to avoid using the words "fire," “subsurface oxidation (SSO),” or "smolder," but federal regulations also state that the operating temperature value at a particular landfill gas well may not cause fires nor significantly inhibit anaerobic decomposition by killing methanogens. The operator must comply with both parts of the regulation.

SET Events also can (1) impact the integrity of bottom, top deck, and side slope

[1] Vytenis Babrauskas, Ignition Handbook 14,18 (2003).
[2] Id.

geosynthetic liner systems; (2) impact the efficacy of gas and leachate control infrastructure made from high-density polyethylene (HDPE) and/or polyvinyl chloride (PVC) materials (e.g., pipes, lines, and gas wells, due to softening and/or melting), (3) impact the quality of gas composition for renewable energy and operation of flare systems, (4) change in chemical profile of leachate from non-hazardous waste liquid to hazardous waste liquid due to increased benzene concentration, (5) slope instability, and (6) cause excessive and/or rapid settlement of the landfill surface.

A SET Event can result from a combination of reactions. For example, reactive industrial waste (e.g., aluminum dross, baghouse dust, salt cake, fly ash, incinerator ash, or other metal oxide waste) can generate sufficient heat to pyrolyze or ignite surrounding municipal solid waste (MSW) and cause high gas pressures at temperatures exceeding 212°F (100°C). A SET Event can also be caused by aggressively overpulling a gas collection and control system (GCCS) to address emissions and/or odors. This "doom loop" occurs when the operator attempts to correct one adverse condition by increasing the vacuum in the adjacent wells, which causes negative events (i.e., a spike in temperature or oxygen levels) in the surrounding gas wells, leading to further deterioration. This is precisely what CCL's industry expert recommended in his November 2024 EREF-sponsored presentation[3]. CalRecycle staff agree that the pressure in the landfill should be reduced, but not at the risk of initiating a new shallow SET Event by exceeding the oxygen threshold of 2 percent or requesting a temperature higher operating value.

To suggest that a SET Event cannot be related to a fire or smolder and can only be caused by a landfill accepting industrial waste that causes an unknown chemical reaction, as claimed by CCL, is not reasonable. A proper root cause analysis would show that the aforementioned scenario is the probable cause of the SET Event.

A root cause analysis for a SET Event must be based on the scientific investigation method. The study should employ a logical, step-by-step process that considers all possible mechanisms and utilizes measured parameters to eliminate mechanisms and determine the cause or causes of the SET Event. The analysis for a SET Event should follow pre-defined steps. The fact that Elevated Temperature Landfills (ETLFs) are limited to the United States (US), as confirmed by Dr. Morton A. Barlaz of North Carolina State University in his November 2024 EREF-sponsored presentation[4], suggests that ETLFs are primarily due to landfill operating standards, conditions, and practices in the US. For example, in 1999, the Department of Energy estimated that approximately 2 billion pounds of aluminum dross and salt cake materials were landfilled annually in the US. Past SET Events at Countywide and Middle Point MSW Landfills are directly related to

[3] Environmental Research & Education Foundation, A Deep Dive into Elevated Temperature Landfills, YouTube (Nov. 20, 2024), https://www.youtube.com/watch?v=sQQZBbtQ_w4.
[4] Id.

the documented acceptance of 1.28 million tons of aluminum dross waste, which created an exothermic reaction that thermally broke down surrounding MSW. At the Countywide MSW Landfill, leachate recirculation provided enough liquid to cause an exothermic reaction of the placed aluminum dross waste.

Subsurface Elevated Temperature Event Monitoring

Temperature is the key metric in tracking a SET Event. Other metrics include LFG such as carbon monoxide (CO), hydrogen (H_2), methane (CH_4), volatile organic compound (VOC) levels in the landfill gas, settlement, cover fissures, leachate outbreaks, damage to the GCCS, emissions and odors, reduction in effective well screen lengths and higher liquid levels, positive gas pressure, and liquid geysers from gas wells[5].

Landfill temperatures can be measured using various methods, including gas temperatures at wellheads, vertical profiles in gas wells, probes in the waste, liquid temperatures monitored with specific pumps, and surface temperatures measured with FLIR cameras.

Landfill gas methane content typically declines at 131°F (55 °C) because methanogenic activity decreases. At temperatures above 158°F (70°C), few methanogens will survive, and methane concentrations will drop below 15 percent.[6] [7] This upper threshold is crucial in maintaining compliance with Title 40 of the Federal Code of Regulations (40 CFR), as stated in multiple sections.[8] The operator must not operate a GCCS that causes a fire or significantly inhibits anaerobic decomposition by killing methanogens. The operator must also maintain waste temperatures below the level that damages the GCCS and liners.

CalRecycle staff recommends that temperatures above 131°F (55°C) be considered the threshold at which a SET Event is considered to have started. We recognize that USEPA revised its regulation under the National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63.1958(c), effective September 27, 2021, which increased the operational standard temperature from 131°F (55°C) to 145°F (62.8°C). CalRecycle still recommends the more conservative temperature threshold of 131°F (55°C) to initiate a root cause analysis, restrict oxygen to less than two percent, and repair the cover to prevent a SET Event.

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[5] When Does a Municipal Solid Waste Landfill Become an Elevated Temperature Landfill (ETLF)? US EPA (Mar. 7, 2025), https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=CESER&dirEntryId=354569.

[6] Krause et al., Understanding Landfill Gas Behavior at Elevated Temperature Landfills, 165 Waste Management 83-93 (2023).

[7] Jafari, Progression of Elevated Temperatures in Municipal Solid Waste Landfills, (Mar. 23, 2017), https://cdn.prod.website-files.com/5977726d80d12837b9592f43/5c1751e2f58cb29ead2cffc9_Navid-Progression%20of%20Indicators-JGGE-2017.pdf.

[8] 40 C.F.R. § 63.1958 (2025), 40 C.F.R. § 62.16716 (2025), 40 C.F.R. § 60.34f (2025), 40 C.F.R. § 60.763 (2025)

CalRecycle staff also recommends a maximum operating temperature threshold of 140°F (60°C) for systems with PVC and HDPE pipe due to the risk of failure. Additionally, CalRecycle staff considers a temperature of 140°F (60°C) to be the threshold that impacts the service life of liners.[9] As discussed in "Service Life of HDPE Geomembranes Subjected to Elevated Temperatures," by Navid H. Jafari, PhD, Timothy D. Stark, Ph.D., P.E., and R. Kerry Rowe, Ph.D., P.Eng., a temperature of 140°F (60°C) decreases the service life to 15 to 20 years from 205 to 315 years at 86F (30°C).

Reaction Area Boundary

As part of a South Coast Air Quality Management District (SCAQMD) Stipulated Order of Abatement regarding the reaction at the CCL (Case No. 6177-4), a Reaction Committee was formed to review applicable data, estimate the extent of the SET Event, and determine the reaction area. The CCL's Reaction Committee uses the following criteria to track the SET Event:

- *Landfill gas (LFG) wellhead temperatures more than approximately 160 degrees Fahrenheit.*
- *Poor gas quality (defined as methane levels of less than 30 percent) in conjunction with methane-to-carbon dioxide (CH4:CO2) ratios less than 1.0.*
- *The concentration of hydrogen (H2) in the LFG measured greater than 2 percent by volume.*
- *Accelerated settlement of the landfill surface, defined as approximately 6 inches or greater within a 60-day period, and cracks in landfill cover.*
- *First-hand observations of landfill and/or SCS engineering, construction, and operations and maintenance (O&M) field personnel who are on-site related to:*
  1) atypical excess leachate quantities (presence and quantity of liquids);
  2) instances of pressurized liquids emitting from the landfill surface, from boreholes during drilling, and from LFG wells; and
  3) the characteristics of the odors originating from the select areas of the waste footprint (often described as "chemical-like" and distinctly different from typical LFG or landfill working face odors).
- *Observations of subsurface waste conditions and characteristics as noted on borehole drilling logs for recently installed new wells and/or probes.*
- *Initial subsurface temperatures recorded at the in-situ waste temperature probes that were commissioned in April 2024.*

Unfortunately, the Reaction Committee has taken a conservative approach in determining the reaction area. The Committee relies on a complex set of evaluations,

[9] Navid H Jafari et al., Service Life of HDPE Geomembranes Subjected to Elevated Temperatures, The Journal of Hazardous, Toxic and Radioactive Waste 1-3 (2014).

including wellhead temperatures, the presence of H_2, poor gas quality, odors, waste conditions from drilling logs, and some TMP data, to determine the reaction boundary.

Indications of a Smolder or SET Event

The Committee disregards the CO results, possibly because they assume this reaction is an unknown chemical reaction causing an ETLF event, rather than a smolder, SSO, or fire. Carbon monoxide concentrations have been used for over 40 years in the US and abroad as a measure to determine if a smoldering or SSO is extinguished. Carbon monoxide is also a sign of incomplete combustion, and the change of CO levels over time is a critical tool in determining the magnitude of the SET Event. This is also why USEPA requires CO measurements[10] at a wellhead or any point in the well greater than 170°F (76.7°C). CalRecycle staff is aware that CCL is tracking CO and providing a scale for intensity in SCSe Tool, but we are unsure why the Committee is disregarding a key metric. **Figure 1** provides the most current CO levels at the CCL.

As far back as 1984, SCS Engineers[11] discussed how to identify a subsurface fire. While the authors stated identification and size determination can be difficult, a subsurface fire is typically indicated by:

- Unusual or rapid settlement.
- Venting of smoke.
- CO in the GCCS.
- Combustion residue in header lines.
- Elevated LFG temperatures.

And the location and areal extent of a subsurface fire can involve:

- Thermographic scans.
- Excavation or boring to allow visual examination of refuse.
- Installation of test wells to allow for monitoring.

All of these steps have been done by CCL; however, CO is not being evaluated by the Reaction Committee. The CCL also notes that they are not observing smoke venting, concluding elevated temperatures must not be a result of a fire. CalRecycle staff have excavated many subsurface fires without initially seeing smoke. At times, a smolder will appear as steam venting, and only when CO sampling, excavation, and/or a FLIR survey is performed will the operator confirm a smolder. Additionally, compacted waste outside the smolder can act as a filter for particulate matter, depending on its depth and location. The 1984 SCS Engineer's article[12] acknowledges this, stating, "*Depending on the location of the subsurface fire, smoke could be drawn through the LFG extraction system unnoticed."* The absence of smoke does not confirm that a smolder is not present. CalRecycle staff is not implying that all SET Events are smolders; however,

[10] 40 CFR 63.1981(h)(8)
[11] Robert Stearns & Galen Petoyan, Identifying and Controlling Landfill Fires, 2 Waste Management & Research 303-309 (1984).
[12] Id 11.

smolders start from SET Events. Some SET Events can be tracked by other parameters, such as oxygen levels above 5 percent and/or the presence of H2, VOCs, or the occurrence of settlement and fissures. However, USEPA makes the distinction between smolders and SET Events, and that the owner or operator may establish a higher operating temperature, provided that it neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria to be approved. Temperature above 160°F (71°C)[13] significantly inhibits the production of methane.

Temperature

To simplify the discussion between the LEA and CCL, CalRecycle will use CCL's Reaction Committee value of 160°F (71°C) as the temperature at which the SET Event is expanding and inhibiting methanogenic bacteria from producing methane. Temperatures greater than 160°F (71°C) will signify an increase in reaction intensity. Since the CCL has elected not to install a barrier, the previous installation criteria will not be used. Instead, a temperature of 160°F (71°C) will be the criterion to confirm that a SET Event has expanded.

To monitor the SET Event, CCL constructed 20 TMPs in the waste, which were operational in late April of 2024. Only two TMPs (TP-3 and TP-9) could be completed within the known reaction area. Other TMPs were scheduled to be placed in the Reaction Area, but due to unsafe conditions with pressurized leachate and thirteen geysering gas wells, CCL elected to wait. In January 2025, CCL added eight additional TMPs to act as sentinels adjacent to the Reaction Area. The TMP network collects data in real-time and reports daily.

The most accurate temperature measurement in a landfill is the in situ temperature, measured at various depths using TMPs. As discussed previously in CalRecycle's letter dated October 16, 2023, the enhanced monitoring of downwell temperatures at CCL, documented the 2023 First Semi-Annual NSPS and NESHAP Report showed two gas wells (CV-2201 and CV-1902S) with significant temperature differences in the shallow zone (i.e., less than 50 feet below ground) of waste. On June 27, 2023, CV-2201 had a wellhead temperature of 135°F (57°C). Twenty feet down from the well casing, the temperature was measured to be 36°F (20°C) higher at 171°F (77°C). On June 28, 2023, CV-1902S had a wellhead temperature of 141°F (60°C), and forty feet below, a downhole temperature of 188°F (87°C) indicated a difference of 47°F (27°C). While some of the downwell temperatures from the 2024 Semi-Annual Report enhanced monitoring requirements[14] showed temperatures within 10°F (5.5°C) of the wellhead temperature, several downhole logs showed temperature differences ranging from 40 to 120°F (23.8 to 37.7°C). Operators should not rely on wellhead temperatures in an area where the SET Event is expanding or where oxygen levels exceed 2 percent by volume. The operator should consider other indicators, such as downhole temperatures, TMPs, LFG data, or results for CO, H2, and VOCs, to verify the movement of the SET Event.

[13] Id 5,6.
[14] Id 9.

Using wellhead temperatures to determine SET Event boundaries is questionable. Past SET Events have documented temperature differentials between the wellhead temperature and downhole temperatures exceeding 100°F (37.7°C), and at the CCL, the differential was even higher at 120°F (48.8°C). Once the LFG temperatures stabilize, the operator can use the wellhead data to visually display the progression graphically. **Table 1** provides a summary of selected enhanced monitoring downwell temperatures from the 2023 and 2024 Semi-Annual Reports.

Table 1. Selected Wellhead and Downwell Temperature Differential at Chiquita Canyon Landfill (Source: Semi-Annual Reports 2023 to 2024)

Well ID	Date	Wellhead Temp (°F)	Downwell Temp (°F)	Downhole Depth (ft)	Temp (°F) Differential
CV-2201	6/27/23	135	171	20	**36**
CV-1902S	6/28/23	141	188	40	**47**
CV-1532A	12/5/23	148	194	34	**45**
CV-2310	11/16/23	184	226	125	**42**
CV-24034	1/6/24	166	196	11	**30**
CV-2001	1/17/24	60	165	37	**105**
CV-24139	1/31/24	74	180/194	15/25	**106/120**
CV-24140	1/31/24	99	175	12	**76**
CV-2352	8/26/24	104	166/200	15/25	**62/96**
CV-24017	8/29/24	140	165	3	**25**
CV-2341	11/10/24	140	165/170	3/33	**25/30**
CV-24139	11/17/24	127	190	13	**63**
CV-2339	12/26/24	168	195	12	**27**

The TMPs provide a more accurate account of temperature than wellhead monitoring for two distinct reasons. First, TMPs provide more accurate and in-depth waste mass temperatures compared to wellhead temperatures. Second, TMPs provide real-time data, unlike collecting LFG data, which is typically done only one or twice a month.

As an example of how wellhead temperatures can mask what is occurring in the waste, as shown in **Figure 2,** TMP-14 reported a temperature of 80°F (26.7 °C) on April 24, 2024, at the fifteen-foot probe. By March 19, 2025, the temperature at the 15-foot probe had increased to 133°F (56°C). This shallow temperature spike was not observed in gas well CV-1906, approximately 10 to 15 feet away, where the wellhead temperature was reported to be 68°F (20°C) on April 1, 2024, and 60°F (15.5°C) on March 19, 2025. There were also significant temperature swings in the wellhead temperature data for gas well CV-1906, where the temperature rose from 95°F (35°C) to 121°F (49°C) and then dropped to 73°F (22.7°C) within a month. However, all the wellhead temperatures are below the regulatory threshold and do not require further analysis. Data from TMP-14 indicated that on March 19, 2025, the temperature reached 133°F (56°C) and exceeded the 131°F (55 °C) threshold. CV-1906 is also experiencing a significant oxygen overdraw at this location. The percent oxygen has varied from 10.9 percent on March 4, 2024, to 18.7 percent on March 6, 2025. The average oxygen for the past year at this well is 8.4 percent. Continued high oxygen levels above 2 percent and temperature spikes will lead to a SET Event. This TMP and gas well are approximately 450 feet away from the CCL-defined reaction boundary and CalRecycle staff do not believe the shallow temperature increases are connected to the main reaction area. CalRecycle believes that the temperatures of 166 to 168°F (74.4 to 75.5°C) at the deeper probe (i.e., 125 to 150 ft) are connected. However, this data demonstrates that the operation of the GCCS must not sacrifice LFG operational objectives/standard operating procedures (i.e., limiting oxygen to 2 percent[15]) to control emissions and risk developing of new SET Events. **Table 2** and **Table 3** provide the LFG data and temperatures for gas well CV-1906 and TMP-14.

The Reaction Committee has disregarded a significant number of in situ TMP readings and does not consider shallow temperature spikes as indicative of SET Events or smolders. Again, in the SCS Engineers 1984 journal, they describe a gas temperature of 45°F (25°C) above baseline gas temperatures just before verification of a subsurface fire.

The Reaction Committee stated in November 2024, that the temperatures recorded by the 13 probes (TP-4, TP-6, TP-7, TP-8, TP-10, TP-11, TP-13, TP -14, TP-15, TP-17, TP-19, TP-20) outside the boundary during October 2024, are not indicative of a subsurface reaction and do not substantiate a decision to expand the boundary of the reaction area at this time. However, in January 2025, the CCL made an adjustment to the Reaction Area boundary that included TMP-15. **Figure 3** provides a map of the TMP's network as of December 2024, while **Figure 4** shows the most recent TMP network, which includes the seven installed TMPs (TP-25, TP-26, TP-29, TP-30, TP-31, TP-32) and the new Reaction Area boundary encompassing TP-15.

Of the primary twenty TMPs (TP-1 to TP-20), four TMPs (TP-8, TP-10, TP-11, TP-15) have shown or are exhibiting shallow temperature spikes above 160°F (71°C) at the shallow depths between 15 and 45 ft. Six other TMPs (TP-6, TP-13, TP-14, TP-17, TP-

[15] Todd Thalhamer, Expert Opinion of the Bridgeton Sanitary Landfill Incident, Bridgeton, Missouri, MO.gov (Sept. 1, 2025), https://dnrservices.mo.gov/bridgeton/docs/agobridgeeval92015.pdf.

19, TP-20) have temperatures that have been or are currently trending upwards since installation. The remaining ten are holding their current temperatures and have not cooled. Two TMPs (TP-6 and TP-8) have seen both increases and decreases. TP-6 reported a significant temperature decrease in the deeper probes at depths of 80, 100, and 120 ft; however, it also observed substantial temperature increases in the shallow probes at depths of 15, 30, 45, and 60 ft. TP-8 recorded substantial temperature increases on January 10, 2025, once TP-8 came back online. The CCL elected to take TP-8 offline in early October 2024, for a waste filling process. Temperature differentials of 30 to 90°F were observed in all TMPs. Two probes in TP-8 recorded temperatures of 230 to 232°F (110 to 111°C). Since January 2025, all temperatures have dropped, but not to the original temperatures measured in May 2024. As of April 2024, the two TMPs (TP-3 and TP-9) in the original waste area have maintained their maximum temperatures at 222°F (105.5°C) and 233°F (111.6°C), respectively. Attachment B provides graphs of the ten TMPs that have demonstrated or are currently experiencing temperature increases.

A review of the new temperature data from TMPs (TP-25, TP-26, TP-27, TP-29, TP-30, TP-31, TP-29, and TP-34) determined that all the temperatures in the new TMPs exceed the regulatory threshold of 145°F (62.8°C). Five TMPs (TP-26, TP-29, TP-30, TP-31, TP-32) have temperatures above 160°F (71.1°C), with the highest being TP-31 (with a temperature of 185°F (85°C) at a depth of 190 ft), located over 600 ft from the CCL-defined reaction boundary. It is also important to note that in January 2025, the CCL changed the probe depths of the new TMPs without notifying the LEA. The CCL elected to install the probes at 25, 40, and 50 ft instead of the approved design of 15, 30, and 45 ft. This change in probe depth will decrease the ability to track shallow SET Events. It is recommended that any future TMP be constructed in accordance with the approved plan. **Figure 5** provides the current maximum vertical temperature map for the TMPs at the CCL.

Table 2. LFG Data for Gas Well CV-1906 from March 2023 to March 2025. (Source: Chiquita Canyon Landfill Raw Gas Data)

Point Name	Record Date	CH4 [%]	CO2 [%]	O2 [%]	Bal Gas [%]	CH4:CO2	Init Temp [°F]
CV-1906	3/4/24	25.2	23.7	10.9	40.2	1.1	68.2
CV-1906	4/1/24	30.9	30.1	9.2	29.8	1.0	68.2
CV-1906	5/17/24	51.0	44.2	0.5	4.3	1.2	82.8
CV-1906	6/10/24	44.3	49.7	0.4	5.6	0.9	91.6
CV-1906	7/3/24	43.6	39.5	3.4	13.5	1.1	109.3
CV-1906	8/1/24	20.8	33.3	9.6	36.3	0.6	104.0
CV-1906	8/19/24	8.2	13.0	15.6	63.2	0.6	95.2
CV-1906	9/4/24	16.5	18.3	12.7	52.5	0.9	106.7
CV-1906	9/28/24	13.8	17.5	13.9	54.8	0.8	93.9
CV-1906	10/2/24	28.4	33.7	1.8	36.1	0.8	121.9
CV-1906	10/16/24	30.6	36.7	0.9	31.8	0.8	73.0
CV-1906	11/1/24	27.1	37.1	0.0	35.8	0.7	79.5
CV-1906	11/17/24	22.4	24.1	7.1	46.5	0.9	79.6
CV-1906	12/6/24	4.4	19.4	16.7	59.5	0.2	79.1
CV-1906	12/18/24	28.1	36.4	2.4	33.1	0.8	80.8
CV-1906	1/4/25	4.4	11.5	16.6	67.5	0.4	66.7
CV-1906	1/12/25	40.8	58.9	0.0	0.3	0.7	107.4
CV-1906	1/17/25	4.3	7.3	15.3	73.1	0.6	68.4
CV-1906	2/3/25	4.7	8.7	15.8	70.8	0.5	71.1
CV-1906	2/20/25	38.2	30.9	5.3	25.6	1.2	73.5
CV-1906	3/6/25	4.1	16.0	18.7	61.2	0.3	60.9

Table 3. TMP Monitoring Data for TP-14 at Chiquita Canyon Landfill. (Source: SCS Engineers TMP Data)

TMP Tracking	TP-14						
	Probe Depth (ft)						
Date	15 ft	30 ft	45 ft	75 ft	100 ft	125 ft	150 ft
Apr 24, 2024*	80	107	123	137	150	160	165
Aug 5, 2024	89	107	123	139	153	164	165
Sep 5, 2024	93	106	123	140	153	165	166
Sep 25, 2024	102	104	122	138	153	164	166
Oct 1, 2024	109	105	123	139	153	164	165
Nov 1, 2024	100	105	123	139	153	164	165
Dec 4, 2024	120	133	123	139	154	164	166
Jan 13, 2025	114	114	123	139	154	164	166
Feb 8, 2025	129	114	123	139	154	164	166
Mar 5, 2025	119	112	123	139	154	164	166
Mar 12, 2025	130	116	123	140	154	164	167
Mar 19, 2025	133	118	123	142	155	166	168

*Data estimated from SCS Engineers Temperature Profiles, raw data not submitted by CCL

It is also the opinion of CalRecycle staff that the CCL has caused other SET Events to occur in the shallow zone by overdrawing the GCCS. These shallow SET Events with temperatures above 160°F (71°C) were observed in the TMP network. Further gas wellhead data and downwell temperature surveys should be done to determine the magnitude of the problem.

CCL and the Reaction Committee have stated that the shallow temperature spikes are not significant in relation to the CCL-defined reaction area. CalRecycle staff have consistently cautioned CCL that overdrawing the GCCS will lead to independent and separate SET Events. The CCL and its consultant state this has not happened in the waste industry, nor has any case study been documented. However, this is not the case. In 2024, the waste industry published part of a case summary of a landfill that most likely had a combination of multiple SET Events. A review of the entire LFG data for oxygen exceedance is sufficient to confirm the overdraw of the GCCS was related to the smolder. On March 14, 2024, a consultant for Middle Point Landfill in Tennessee submitted a minor permit modification to place new MSW waste above an area where aluminum dross waste reacted for Middle Point Landfill. Although the permit request was later withdrawn, the report offered several valuable insights into SET Events. The Middle Point Landfill consultant documented that the facility had two distinct and separate SET Events. One was from the reaction of aluminum dross and the other was a smolder. Both SET Events produce temperatures that kill methanogenic bacteria, as well as high CO and H2 readings. A summary of some of the insights from both reactions from the report is provided below:

- The heat generated by the reaction is efficiently retained in the waste, leading to elevated temperatures. The elevated temperatures can continue to rise to levels that kill methanogenic bacteria found in landfills and may continue to rise, resulting in pyrolysis of organics in the waste.
- Pyrolysis contributes to rapid settlement observed at elevated temperature landfills by consuming organic waste much quicker than typical anaerobic degradation.
- Pyrolysis is an exothermic process and may begin as low as 212°F.
- Evaporation of the liquid from the organics requires a lot of energy to change from liquid to vapor. This may limit the propagation of the pyrolysis in the waste mass.
- The aluminum dross waste (APW) produced ammonia and hydrogen gas, as well as water, and caused pyrolytic reactions in the waste, resulting in the creation of carbon monoxide and other VOCs.
- Significant hydrogen production may occur in elevated temperature landfills without APW, such as Bridgeton Landfill in Missouri. The April 2016 Bridgeton Landfill Monthly Data submission revealed hydrogen concentrations in wells as high as 42 percent, elevated carbon monoxide levels, and decreased methane production.
- Carbon monoxide is typically a byproduct of incomplete combustion and may indicate a subsurface oxidation (SSO) event where MSW is smoldering beneath the landfill surface.
- Carbon monoxide may also be produced through reactions that generate hydrogen.
- The area near well series has been of interest for a number of years. At one time, this area was under close observation following a large, shallow subsurface oxidation (SSO) event that may have been related to the acceptance of APW; however, it was never determined that this event was a direct result of the exothermic reactions occurring in the subsurface.
- The SSO that occurred in this area was treated as a different event compared to the deeper reaction(s) occurring within the subsurface of the AWR.
- This SSO event was observed as an effort to mitigate the oxygen intrusion.

Other Data

There are several ways to increase the degree of certainty in determining the magnitude of a SET Event. Without all the available data, the operator or regulator must evaluate primary indicators such as temperature, LFG gas data, CO, H_2, and physical signs of a SET Event. If other reports or data are available, the operator should analyze this data and compare it to the primary tool. Other data would include FLIR imagery with reference temperature scale, settlement, leachate and gas chemical characteristics, fissures, slope stability reports, additional temperatures from liquid pumps in wells, 2D and 3D temperature modeling, iospatch modeling, odors and emissions, leachate outbreaks and generation, and individual LFG gas plots. The CCL is using the isopatch software to track the settlement every quarter, as shown in **Figure 6**. They also track

the settlement bi-monthly in the Cover Inspection Reports. The maps show the settlement area growth of more than 5 feet. **Figure 7** shows the most current settlement map.

The CCL Settlement and Fissure Reports also align with the TMP temperature spikes data in grids. CCL's consultant, Geo-Logic Associates, provided a summary map of the recently occurring fissures in February 2025 (see **Figure 8**). Significant fissures and areas where the soil collapsed were documented in Grids 146, 147, 148, and 154. CalRecycle also reviewed FLIR data from October 2024; however, CCL has refused to provide the temperature layer on each photo. All data should be available.

CalRecycle staff received the requested raw gas monitoring data (i.e., methane, carbon dioxide, oxygen, balance gas, pressure, flow, temperature, and field notes) for the years 2024 and 2025 on March 26, 2024, and additional comparison of well-to-well data over time for methane and temperatures or individual SET Events cannot be provided at this time. However, another way to evaluate whether the landfill is operating and maintaining air pollution control equipment and monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions is to analyze the Semi-Annual and NESHAP Reports required by the EPA. As shown in Table 4, from the second semi-annual period of 2023 to 2024, the number of reported well readings for oxygen levels above 5 percent, temperatures exceeding 131°F (55°C), and positive pressure increased significantly. The percent change from 2023 to 2024 for wells with oxygen above 5 percent increased by 55 percent, wells with high temperatures increased by 41 percent, and wells with positive pressure rose by 33 percent. This metric indicates that the SET Event is intensifying in magnitude from July 2023 to December 2024, rather than decreasing.

Table 4. Summary of NSPS Reporting Requirement for Chiquita Canyon Landfill

NSPS Reports	Wells Above 5% Oxygen	Wells Above 131/145°F	Wells Under Positive Pressure
2023 Second Semi-Annual	>100	>115	>220
2024 First Semi-Annual	>110	>95	>280
2024 Second Semi-Annual	>225	>195	>330

Soil Reaction Break/Barrier Plan

On November 26, 2024, CCL submitted the third Soil Reaction Break/Barrier Plan. This revision has no proposed barrier and relies on the removal of gas and leachate as a control and containment strategy. The CCL has reported that over 77 million gallons of leachate were removed from January 2024 to February 2025. CCL has not provided any technical thermodynamic analysis demonstrating that removing the leachate or gas has contained the reaction. Only two TMPs have shown any significant decreases greater than 20°F (11°C) and both of those TMPs experienced significant temperature increases within the past six months. There are multiple areas on the landfill where the distance between the gas extraction wells exceeds 150 feet. Specifically, CalRecycle staff estimate that the boundary of the reaction area, where Geo-Logic has documented multiple fissures and cracks, is located to the east of and around Tank Farm #9 and TMP-17. The new reaction boundary has significant distances without extraction wells, extending from CV-2327 to CV-2322, CV-2464, CV-2454, CV-2449, CV-2442, and CV-144, as well as from CV-2305 to CV-2316.

CalRecycle staff is not aware of any published studies indicating that the removal of gas and liquid has contained a reaction similar to CCL. The removal of gas and leachate is critical, given the pressure and generation rate; however, as far as containing a SET Event, CalRecycle does not recognize this as a containment strategy.

Lastly, CalRecycle had requested CCL evaluate if there was any potential internal barrier, such as a haul road, cell separation, fire break, or other feature, that would prevent the SET Event from impacting the entire 190 acres of the main landfill. Based on CCL analysis, there is no internal barrier that could prevent the reaction from spreading to the entire facility.

Review Documents

While CalRecycle has not performed a complete review of the unedited 2024 and 2025 LFG data the CCL has just submitted, the evaluation of the Barrier Plan and reaction boundary is based on the following information and reports:

- Three versions of the Soil Reaction Break/Barrier Plan.
- Vertical Injection Barrier Plans.
- East fill proposals and correspondence.
- Two site visits, one on November 2, 2023, and the other on May 23, 2024.
- Hydrogen, carbon monoxide, VOCs reports and data.
- ERMAC meetings with CCL.
- Technical Memorandum from Dr. Stark, dated February 26, 2025, “Comments on the November 26, 2024 Revised Soil Reaction Break/Barrier Plan and February 20, 2025 Waste Temperature Data for the

Chiquita Canyon Landfill Subsurface Elevated Temperature (SET) Event."

- Eight years of Chiquita Canyon Landfill Semi-Annual New Source. Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Reports.
- Five years of Annual Rule 1150.1 Compliance Plan reports, Chiquita Canyon Landfill.
- Four years of Surface Emission Monitoring reports, Chiquita Canyon.
- Raw LFG data from 2022 to 2025.
- Landfill gas migration reports.
- Downwell temperature monitoring reports
- Lorenz pump temperature reports.
- Weekly TMP reports.
- Weekly Fissure and Settlement reports.
- Slope stability reports.
- Settlement reports
- Leachate metric reports.
- Elevated Temperature Landfill Causation Investigation report.
- SCAQMD orders.
- Reaction Committee reports.
- Odor reports.
- LFG designs and maps.
- FLIR Imagery.
- LEA orders, correspondence, temperature and settlement reviews, and general technical review.
- Other letters, correspondence, LFG laboratory reports, and other data files.
- Experience with other SET Events and smolder in the US and abroad.
- The letter from Dr. Stark, which provides additional details on the cover specifications, is included in Attachment C.

Evaluation

Based on the information above, the CCL has experienced the following conditions:

- Significant emissions and odors that have impacted the community of Val Verde and surrounding areas from 2023 to 2025. According to the SCAQMD, the CCL has received a total of 1,493 complaints and 16 Notices of Violations in 2025.
- The interim cover has experienced significant damage from settlement, leachate outbreaks, slope instability, and fissures.
- Leachate is currently being extracted at a rate of 228,624 gallons per day.
- The facility has had several leachate outbreaks and releases.
- The facility is treating a portion of the leachate for hazardous levels of benzene.

- 13 gas wells have observed geyserIng of leachate.
- Wellhead and downwell temperature differentials have been severe. Two wells have observed differentials over 100°F, and six had readings over 40°F.
- Temperatures have reached the maximum detectable limit of 250°F in the Lorenz Pumps for gas wells CV-2301, CV-2303, and CV-24017.
- Temperatures in TP-3 and TP-9 have remained constant (+/- 5°F) at 222°F and 233°F respectively.
- Temperatures in four TPs (TP-8, TP-10, TP-11, TP-15) have shown or are exhibiting shallow temperature spikes above 160°F in the shallow probes.
- TMP-14 is demonstrating a shallow SET Event.
- Temperatures in six TMPs (TP-6, TP-13, TP-14, TP-17, TP-19, TP-20) have been or are currently trending upwards since installation in April 2024.
- Five new TMPs (TP-26, TP-29, TP-30, TP-31, TP-32) temperatures are above 160°F, with the highest being TP-31 with 185°F at 190ft below the surface. TP-31 is located over 600 ft away from the CCL-defined reaction boundary.
- Nine wellhead temperature have exceeded 200°F and 83 have exceeded 170°F since 2023.
- Multiple LFG wells have been replaced due to integrity issues resulting from temperatures exceeding 140°F.
- Two slope instability incidents have occurred on the west slope.
- The facility is experiencing a decrease in methane production in the reaction area and along the boundary, with many gas wells now operating at less than 15 percent.
- The facility is observing CO above 1,500 ppmv, H_2 above 2 percent, and elevated VOC levels in the reaction and boundary areas.
- NSPS reporting data has increased significantly from July 2023 to December 2024. Wells with oxygen levels above 5 percent increased by 55 percent, temperatures exceeding 131°F increased by 41 percent, and positive pressure at the wellhead rose by 33 percent.
- Accelerated settlement continues to be documented by the CCL in the weekly reports and isopatch survey.
- Temperatures exceeding 140°F have affected the service life of a portion of the liner. Further data is required to perform a more comprehensive study.

Based on the documented conditions summarized above, CalRecycle staff conclude the following:

- The submitted barrier plan will not contain or control the reaction. There is no proposed barrier to prevent the reaction from consuming the entire facility.
- The reaction area is expanding, and the current containment strategy has

failed. Install 40 to 60-mil thick tan or green HDPE-EVOH textured geomembrane underlain by a minimum 6 ounce per square yard (oz/sy) nonwoven geotextile over the approximately 100 acres outside the current geomembrane cover. Weld it to the existing 30-mil thick white HDPE geomembrane or place it in a suitable anchor trench. Submit a construction and quality assurance/quality control (QA/QC) plan for the installation.

- The independent SET Events are developing due to the current GCCS operations.
- While the removal of leachate and pressurized gas is critical, this is not a satisfactory containment method.
- Leachate Tank Farm nine must be relocated off the top deck to an area not impacted by the SET Event now or in the future.
- The expansion of the SET Event into Cell 8A must be prevented by connecting the previously constructed soil barrier to the west and eastern edges of Cell 8A. This soil barrier should provide a thermal block and remove any waste connection from Cells 6 to 8A. It is critical to prevent this expansion to 8A for two primary reasons. If a soil buttress must be constructed to stabilize the slope from the SET Event, this is the only area large enough to build a buttress. We must also allow the landfill to maintain a disposal area for self-generating waste in cell 8A.
- Install five new TMPs, as shown in Attachment A.

If you have any comments or questions, please contact Todd Thalhamer at (916) 341-6356 or email Todd.Thalhamer@Calrecycle.ca.gov.

Sincerely,

Todd Thalhamer, P.E.
Senior Waste Management Engineer
Engineering Support Branch

Attachments

A - Proposed Location of New TMPs for Chiquita Canyon Landfill

B - TMP Data from April 2024 to March 2025

C - Dr. Stark Memo February 26, 2025, Comments on November 26, 2024 Revised Soil Reaction Break/Barrier Plan

Cc Via Email:

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Thanne Berg, Department of Toxic Substances Control (thanne.berg@dtsc.ca.gov)
Laura Friedli, United States Environmental Protection Agency (friedli.laura@epa.gov)

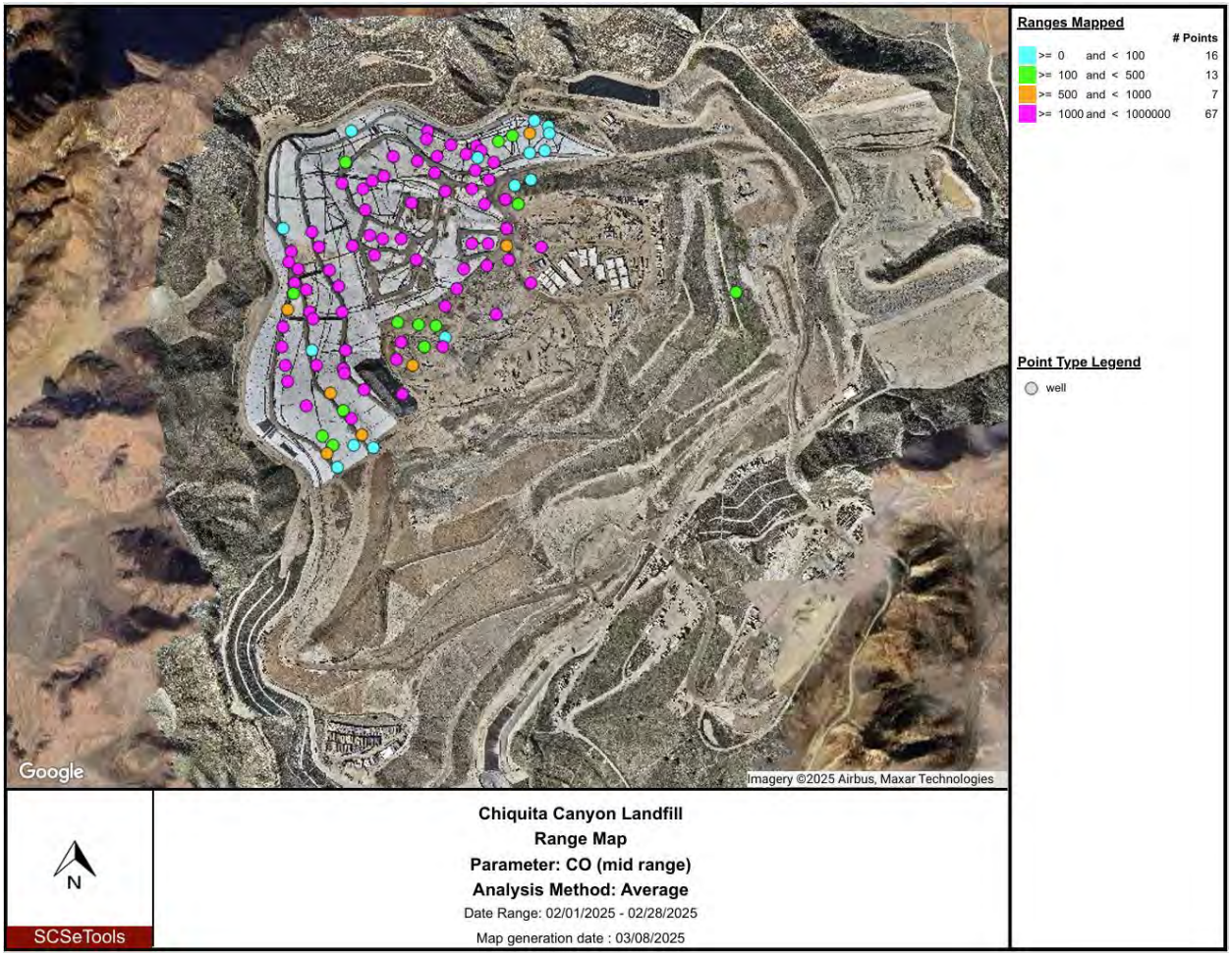


Figure 1. Chiquita Canyon Landfill CO Range Map, March 8, 2025. (Source: SCSe Tools)

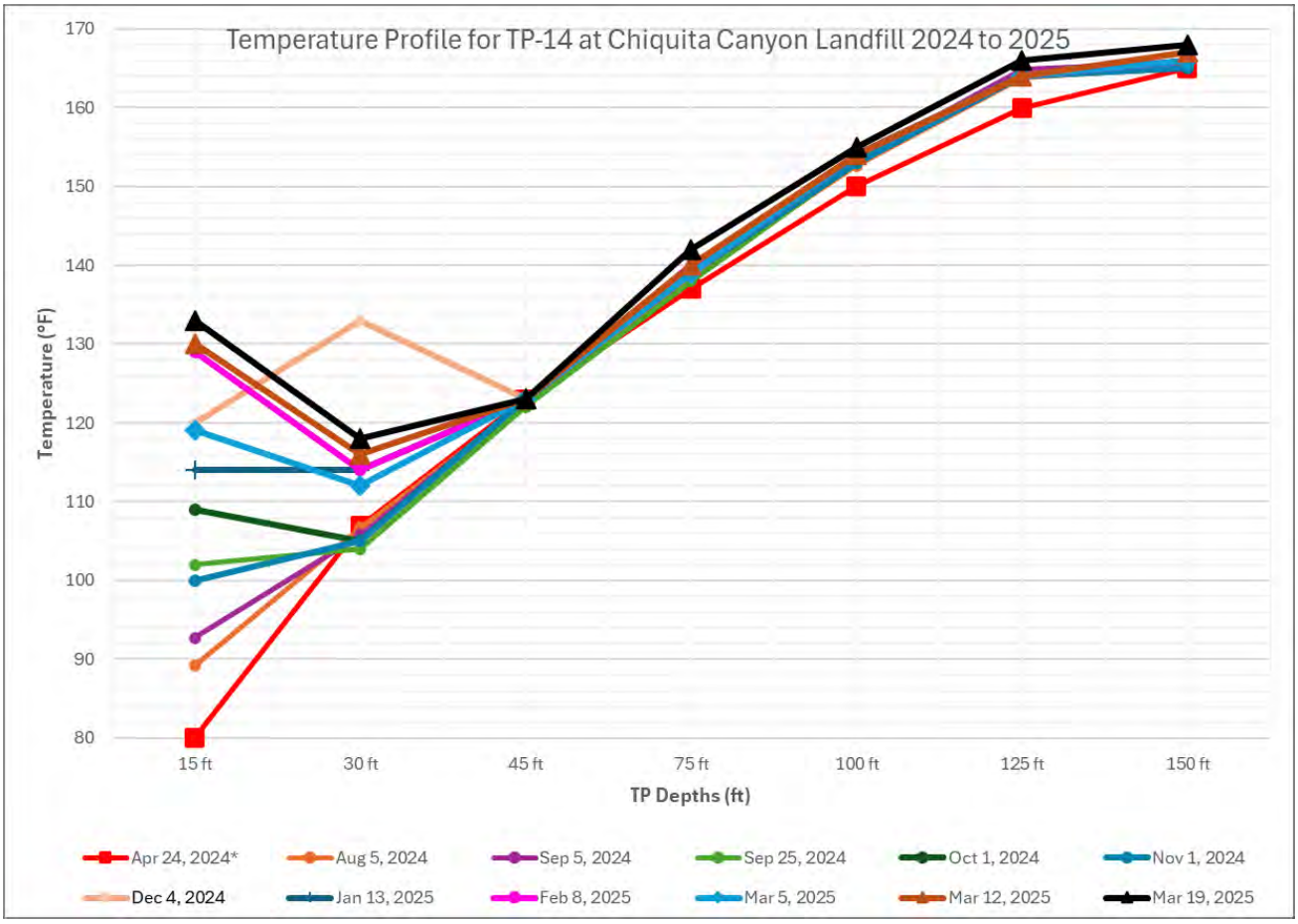


Figure 2. TMP-14 Temperature Profile Demonstrating a Shallow SET Event Developing at Chiquita Canyon, April 24, 2024, to March 19, 2025. (Source: SCS Engineers TMP Data)

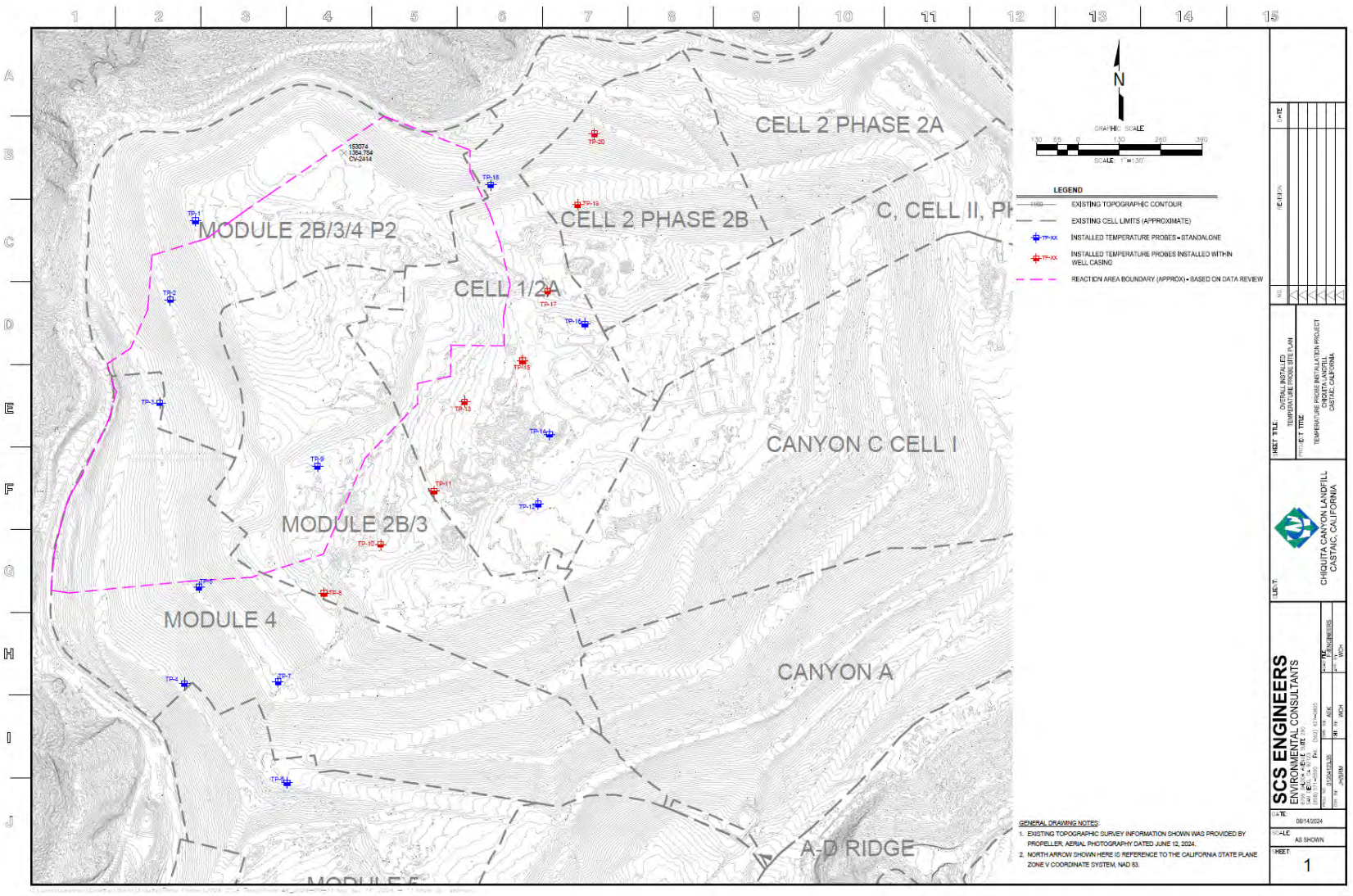


Figure 3. TMP Installation Map for Chiquita Canyon, 2024. (Source: SCS Engineers TMP Data December 2024)

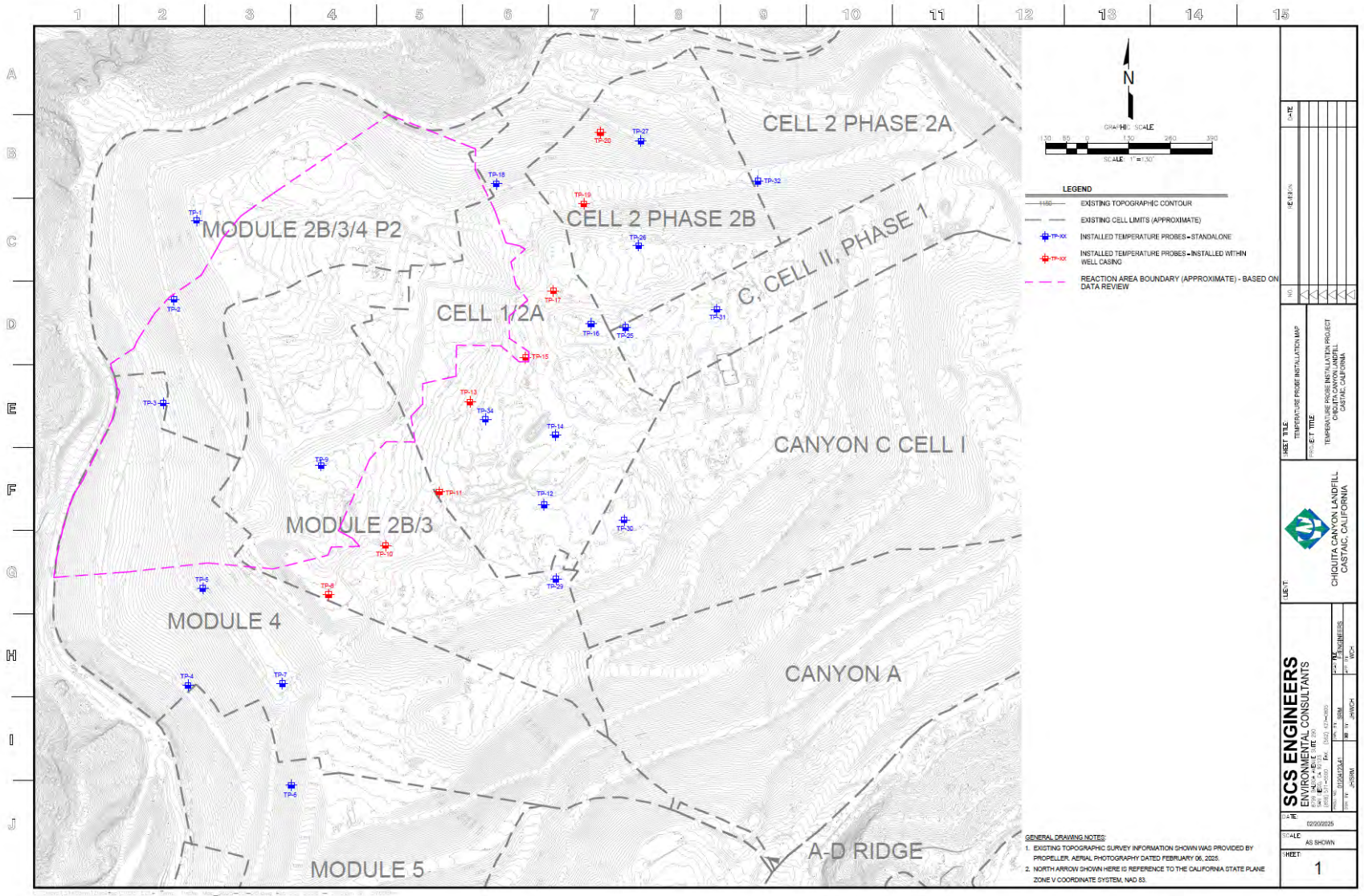


Figure 4. Revised TMP Installation Map Chiquita Canyon for 2025. (Source: SCS Engineers TMP Data March 2025)

Max Temps - 05:00:43 03-20-2025

Current | 7 Day | 30 Day

BOREHOLE	MAX TEMP (°F)	@ DEPTH (FT)
TP01	144	100
TP02	150	60
TP03	233	45
TP04	173	30
TP05	155	75
TP06	137	15
TP07	145	100
TP08	160	150
TP09	222	125
TP10	145	125
TP11	168	125
TP12	146	125
TP13	160	140
TP14	167	150
TP15	193	100
TP16	139	100
TP17	140	125
TP18	144	45
TP19	163	150
TP20	140	45
TP25	149	135
TP26	173	160
TP27	155	110
TP29	183	250
TP30	170	200
TP31	185	190
TP32	168	140
TP34	156	130

Figure 5. Maximum Vertical Temperature Map for TMPs for Chiquita Canyon for 2025. (Source: SCS Engineers TMP Data March 2025)

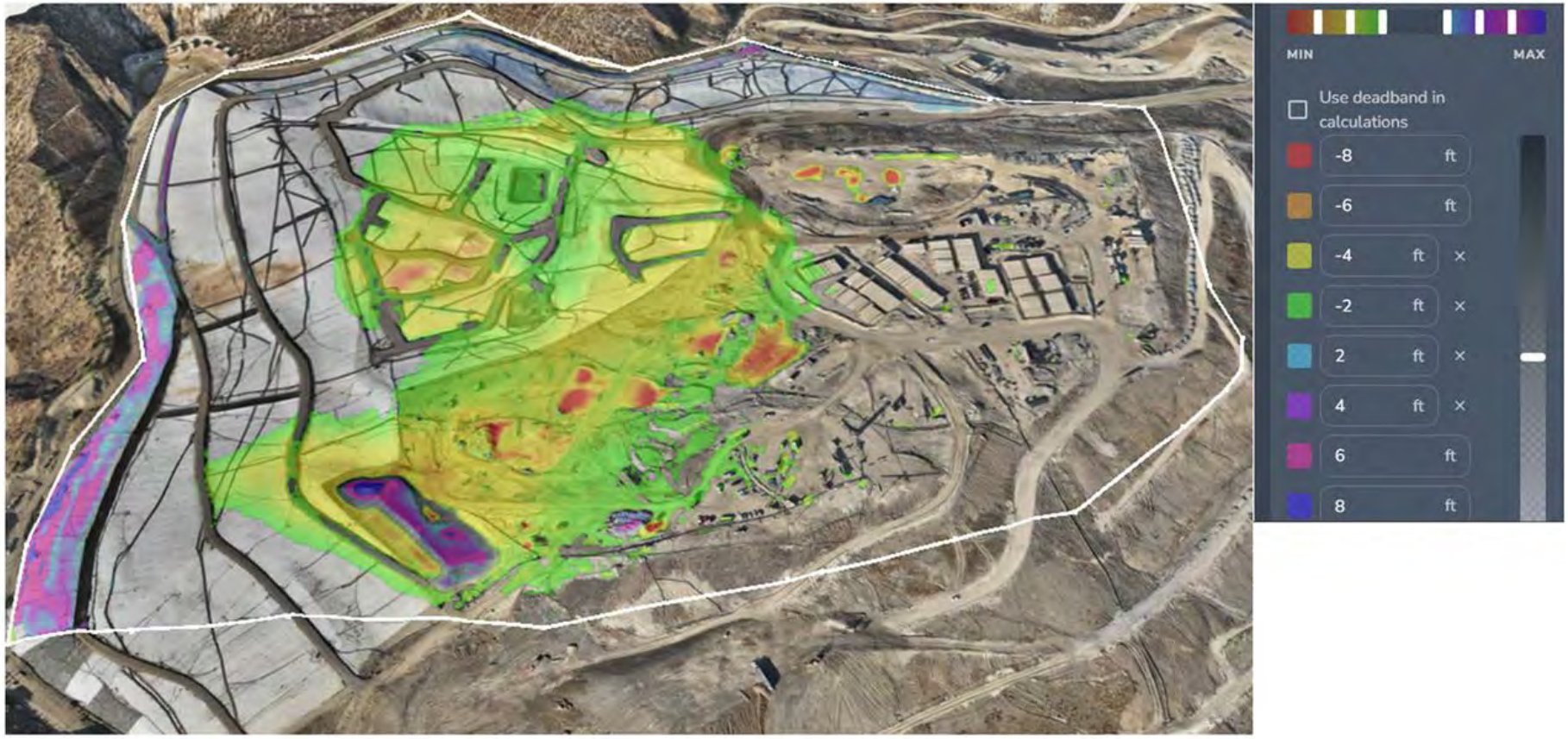


Figure 6. CCL Isopatch Settlement Map, January 3, 2025 Survey Image. October 2, 2024 vs January 3, 2025. (Source: CCL February 2025)

Figure 7. CCL settlement map showing the settlement area growth between 2/26/25 (in green) and 3/11/25 (in red). These polygons show the areas that have settled more than 5 feet. (Source: Bi-weekly Cover Reports by CCL).

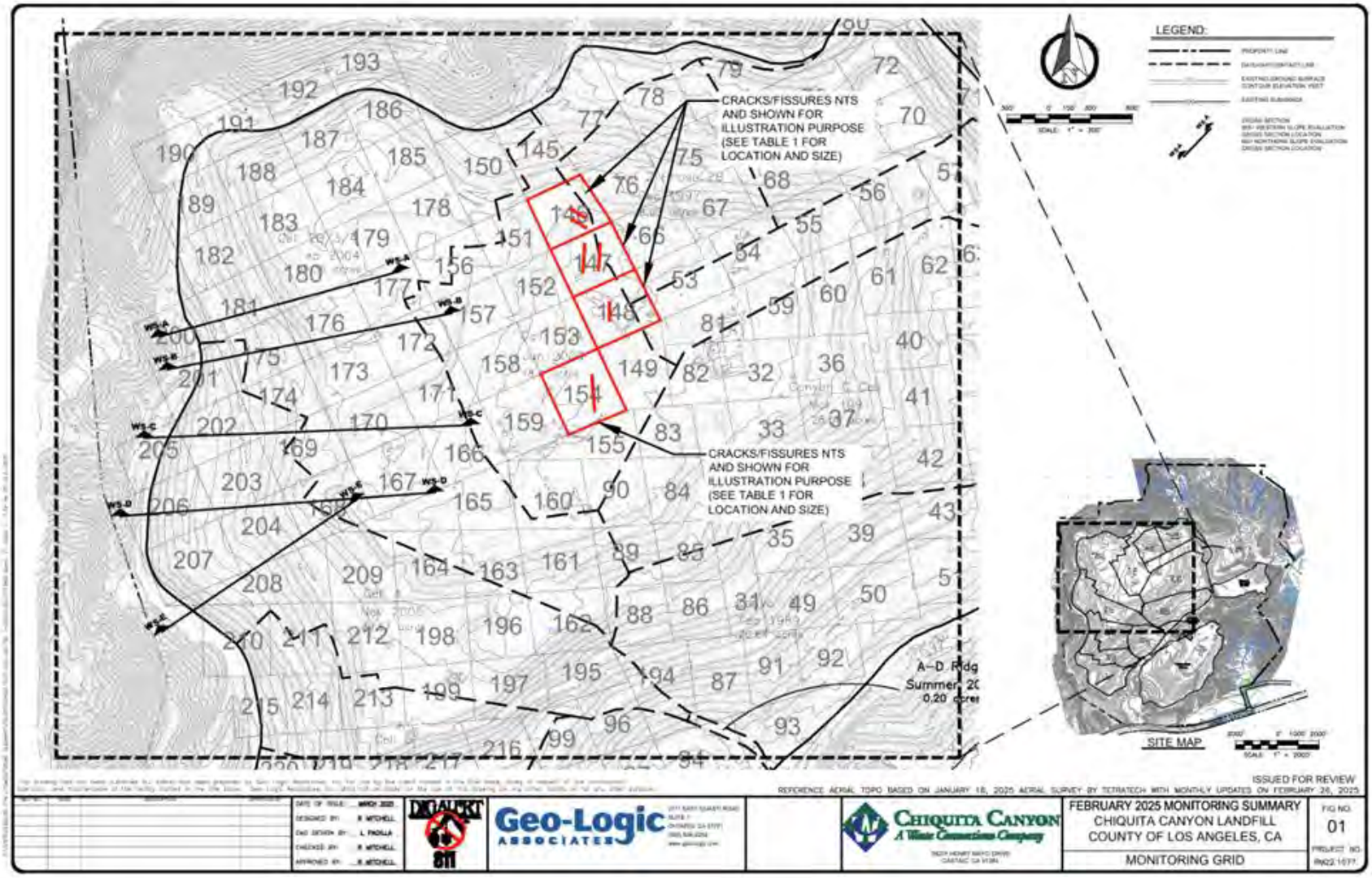
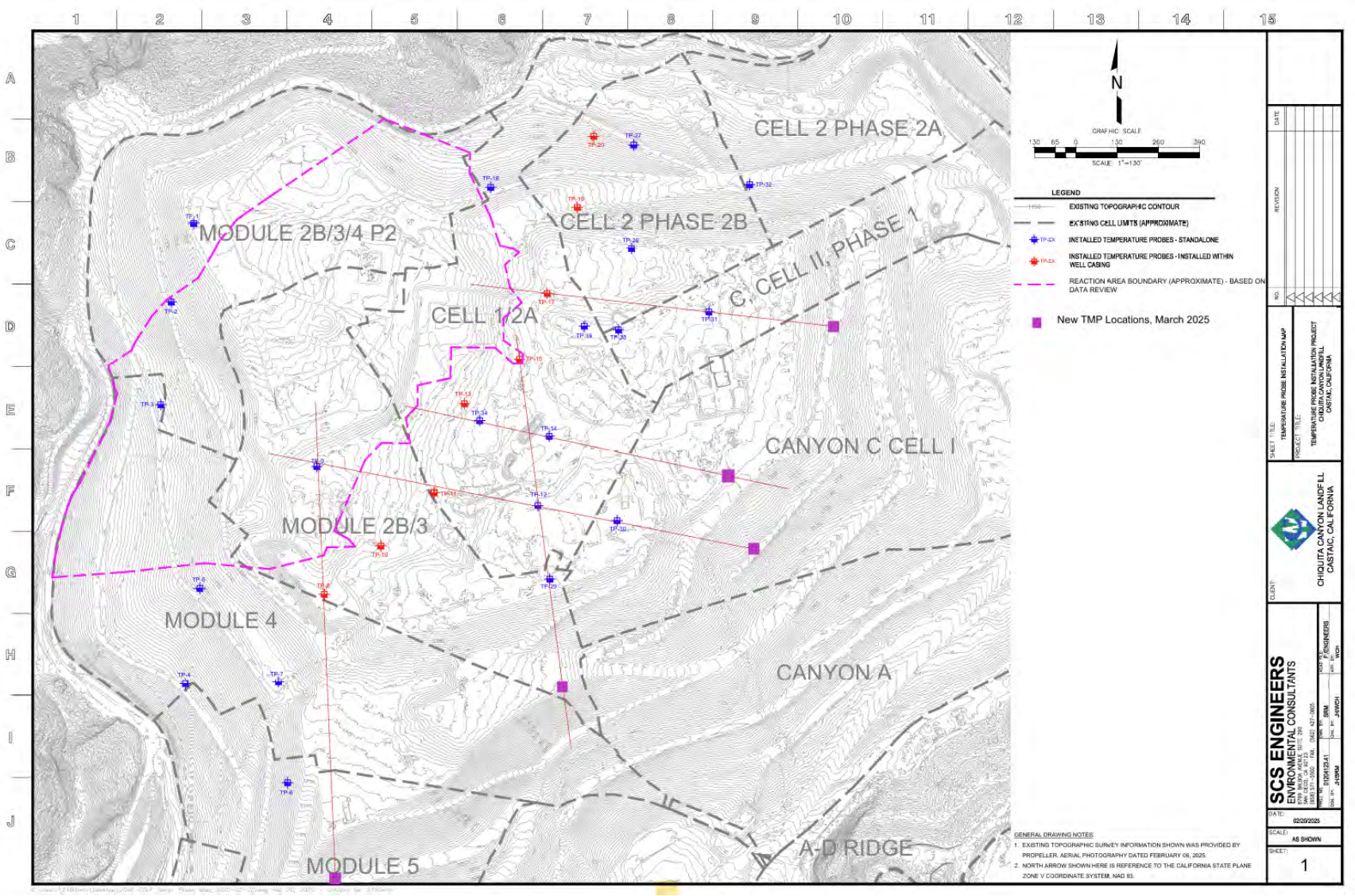


Figure 8. Fissure and Crack Monitoring Report for February 2025. (Source: Geo-Logic Associates)

Attachment A

Proposed Location of New TMPs for Chiquita Canyon Landfill

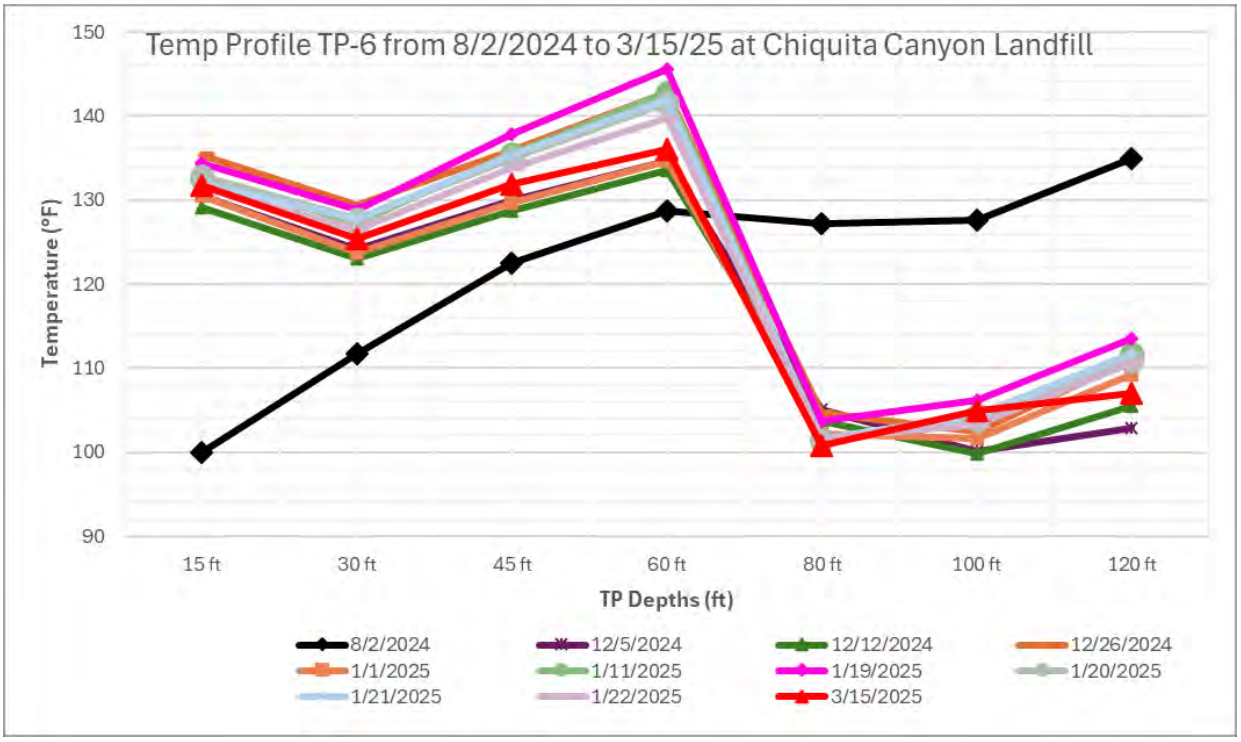
New TMPs for Chiquita Canyon Landfill, March 2025



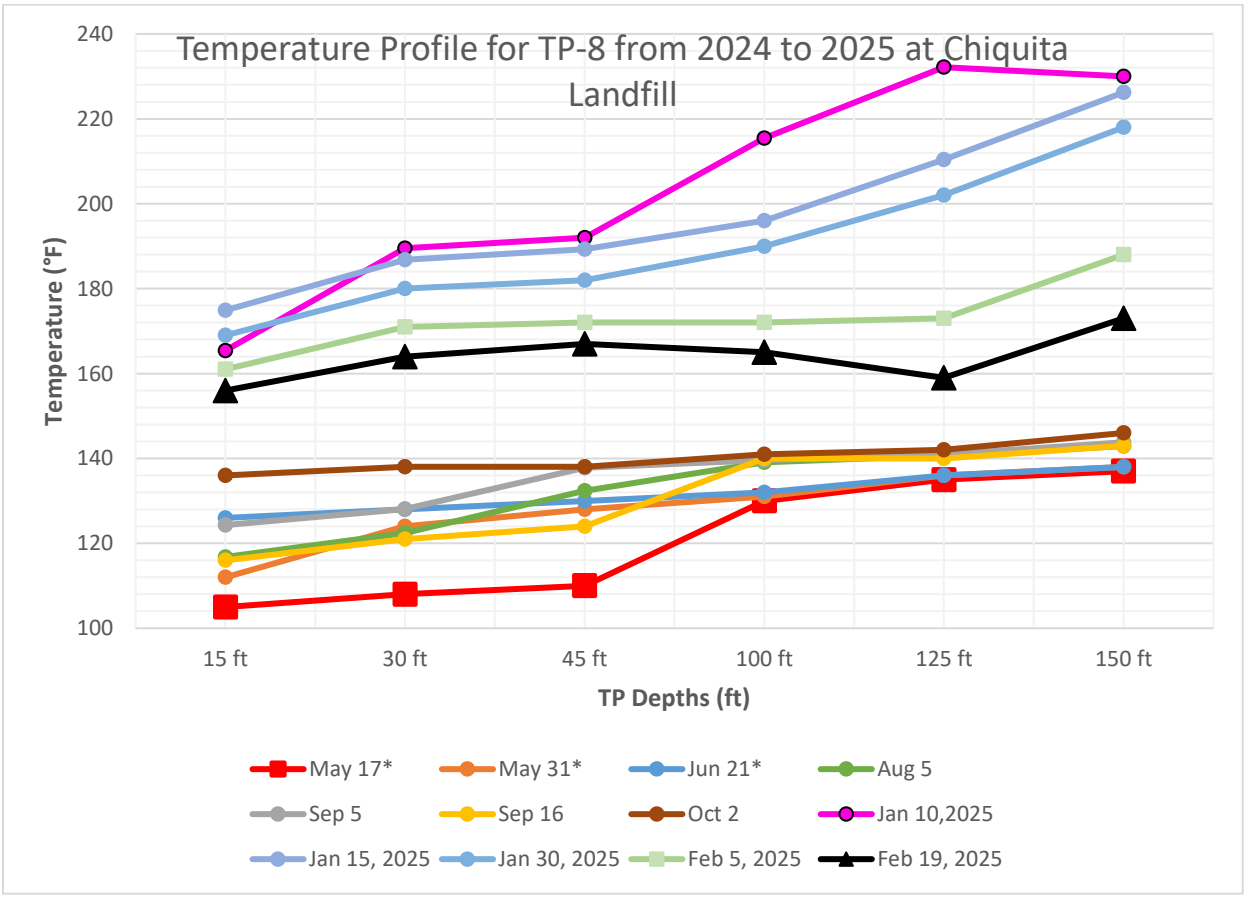
Attachment B

Chiquita Canyon Landfill TMP Profiles with Significant Changes
April 2024 to March 2025

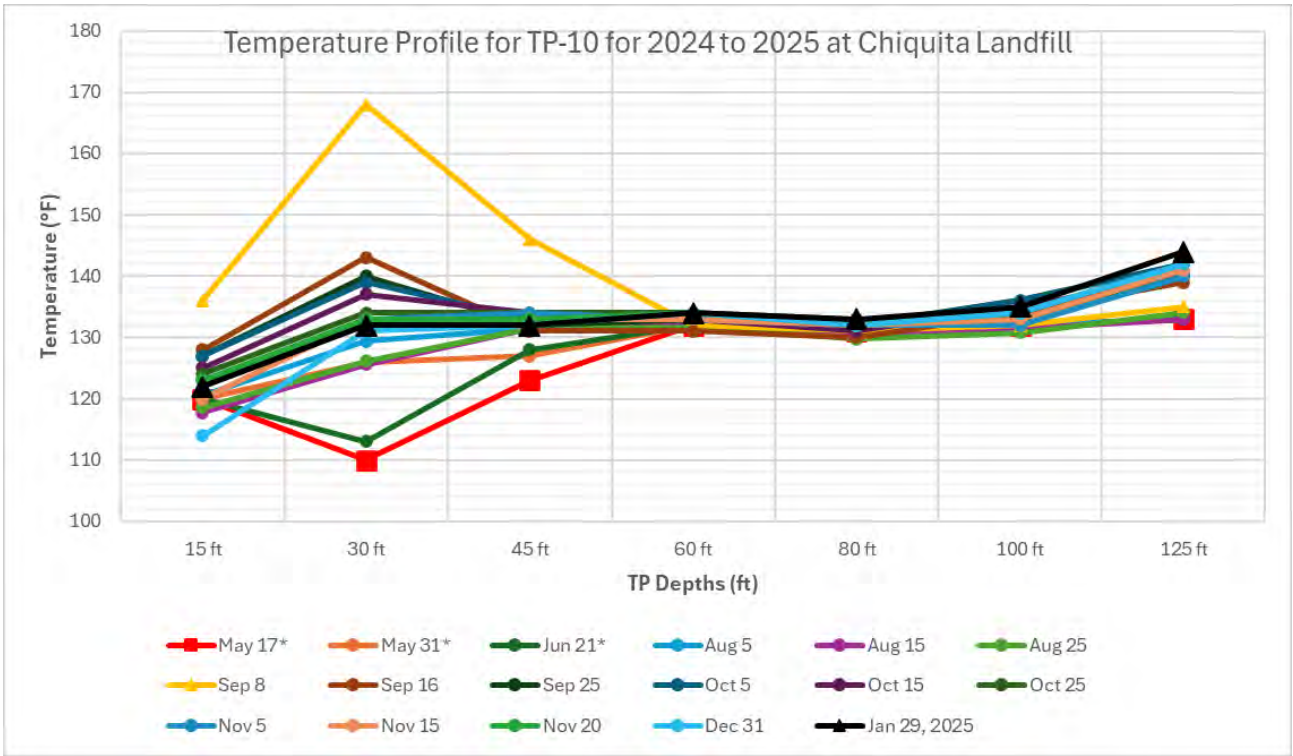
TP-6


Temp Profile TP-6 from 8/2/2024 to 3/15/25 at Chiquita Canyon Landfill
Temperature (°F)
150
140
130
120
110
100
90
15 ft
30 ft
45 ft
60 ft
80 ft
100 ft
120 ft
TP Depths (ft)
8/2/2024
12/5/2024
12/12/2024
12/26/2024
1/1/2025
1/11/2025
1/19/2025
1/20/2025
1/21/2025
1/22/2025
3/15/2025

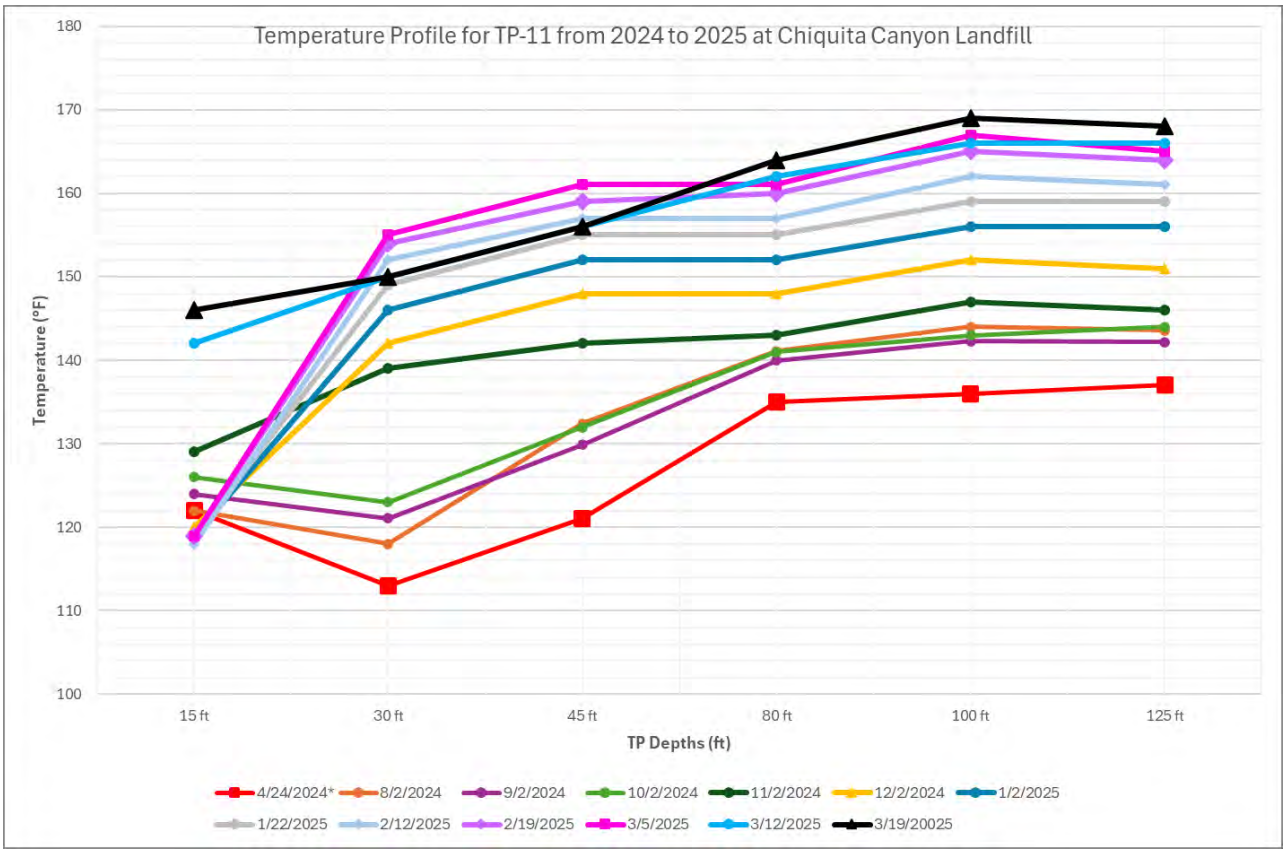
TP-8


Temperature Profile for TP-8 from 2024 to 2025 at Chiquita Landfill
Temperature (°F)
240
220
200
180
160
140
120
100
15 ft
30 ft
45 ft
100 ft
125 ft
150 ft
TP Depths (ft)
May 17*
May 31*
Jun 21*
Aug 5
Sep 5
Sep 16
Oct 2
Jan 10,2025
Jan 15, 2025
Jan 30, 2025
Feb 5, 2025
Feb 19, 2025

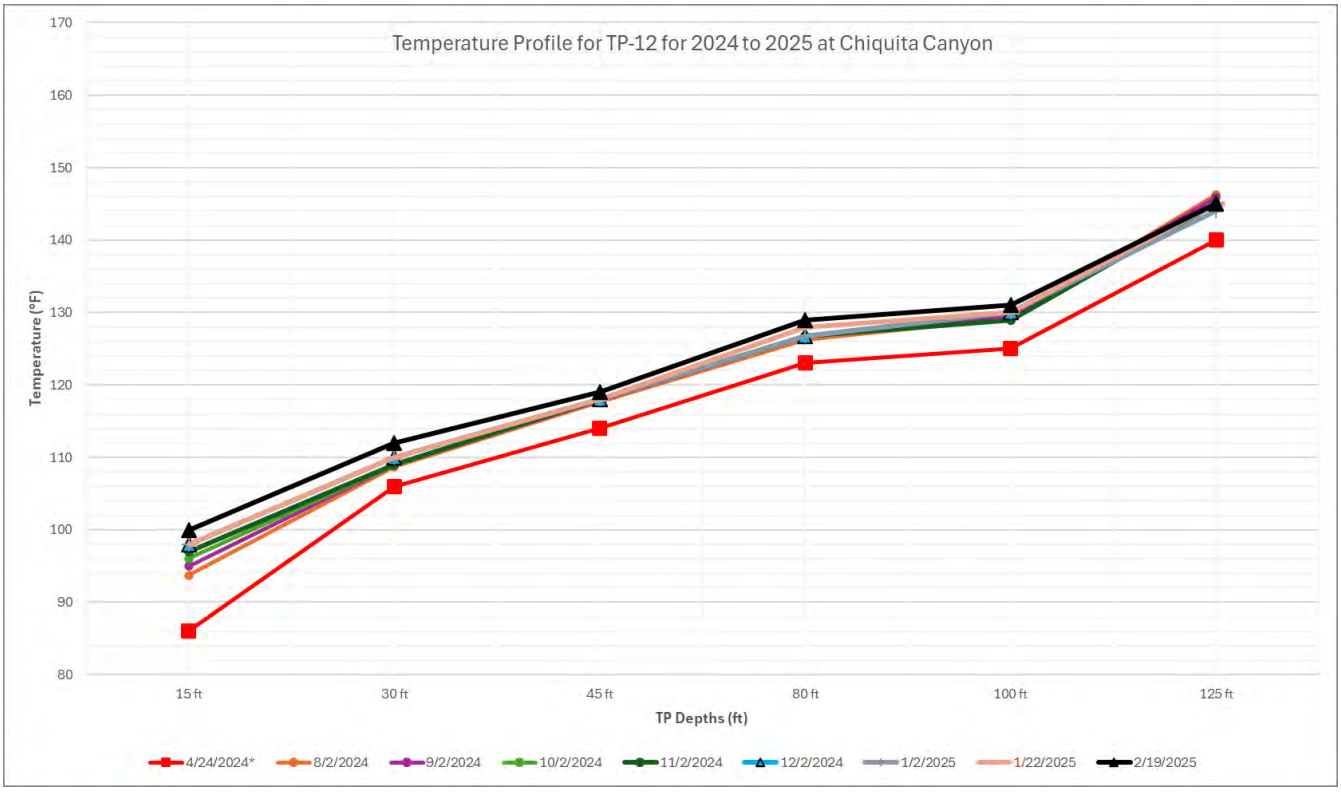
TP-10


Temperature Profile for TP-10 for 2024 to 2025 at Chiquita Landfill
Temperature (°F)
180
170
160
150
140
130
120
110
100
15 ft
30 ft
45 ft
60 ft
80 ft
100 ft
125 ft
TP Depths (ft)
May 17*
May 31*
Jun 21*
Aug 5
Aug 15
Aug 25
Sep 8
Sep 16
Sep 25
Oct 5
Oct 15
Oct 25
Nov 5
Nov 15
Nov 20
Dec 31
Jan 29, 2025

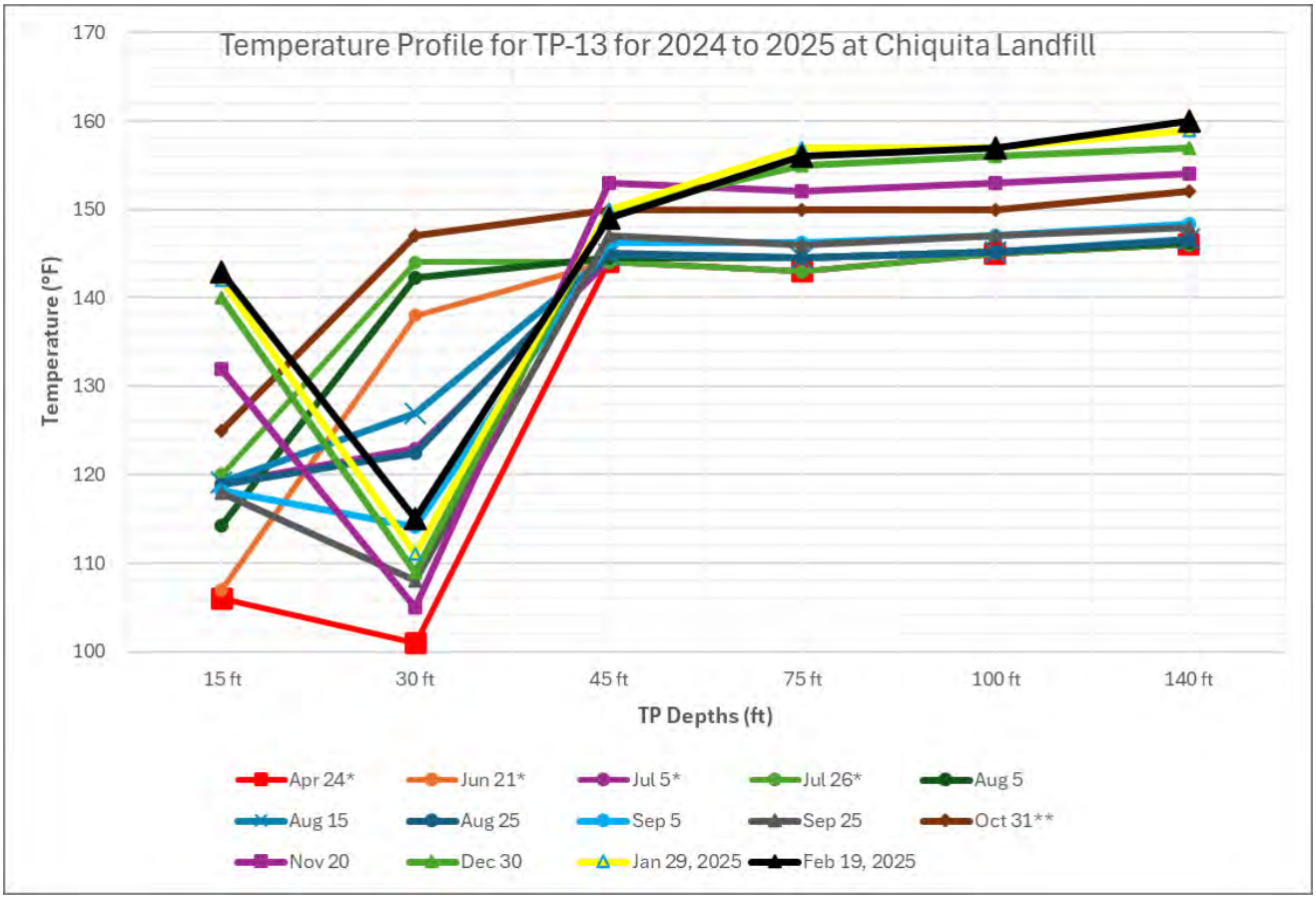
TP-11


Temperature Profile for TP-11 from 2024 to 2025 at Chiquita Canyon Landfill
Temperature (°F)
180
170
160
150
140
130
120
110
100
15 ft
30 ft
45 ft
80 ft
100 ft
125 ft
TP Depths (ft)
4/24/2024*
8/2/2024
9/2/2024
10/2/2024
11/2/2024
12/2/2024
1/2/2025
1/22/2025
2/12/2025
2/19/2025
3/5/2025
3/12/2025
3/19/20025

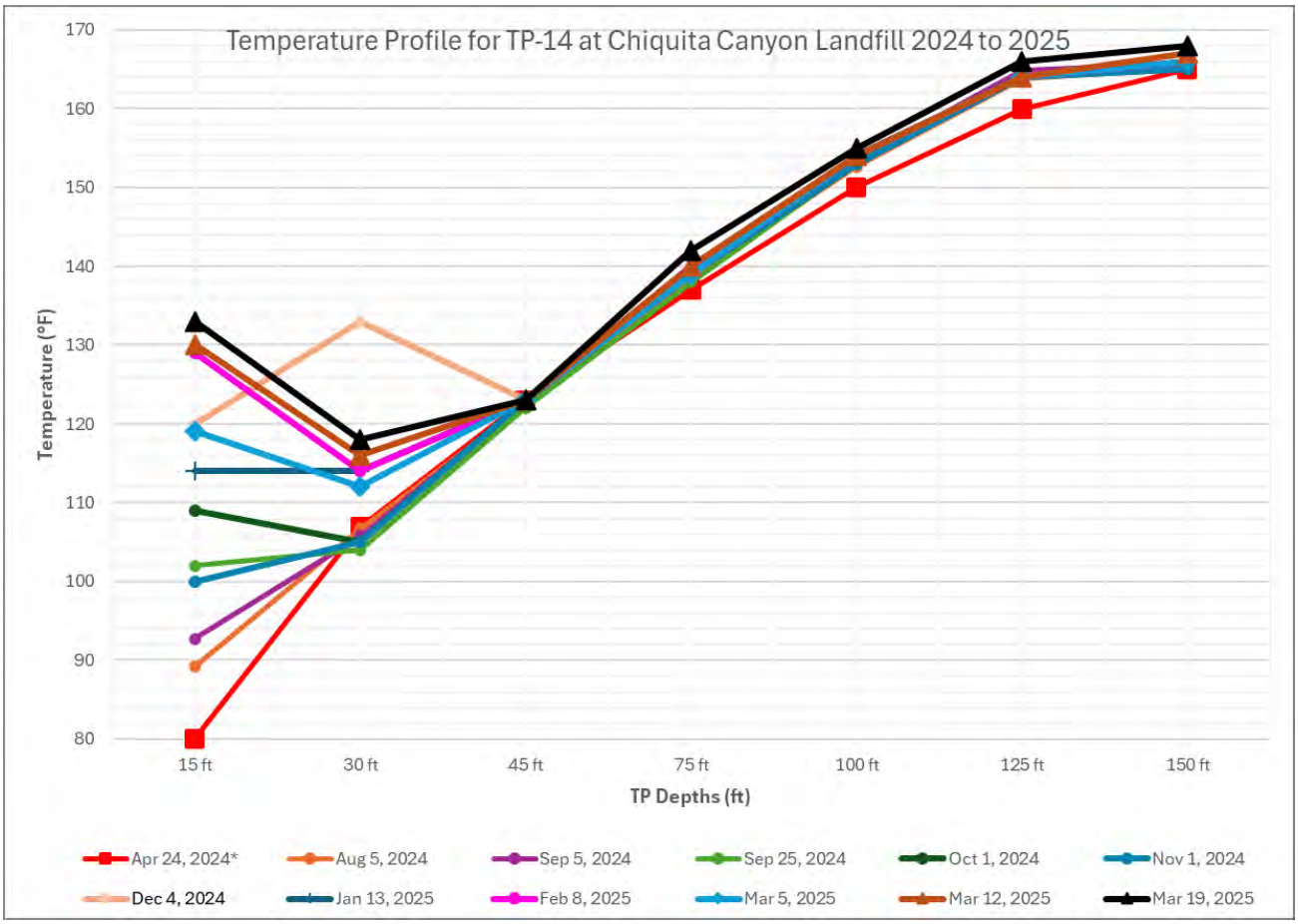
TP-12


Temperature Profile for TP-12 for 2024 to 2025 at Chiquita Canyon
Temperature (°F)
170
160
150
140
130
120
110
100
90
80
15 ft
30 ft
45 ft
80 ft
100 ft
125 ft
TP Depths (ft)
4/24/2024*
8/2/2024
9/2/2024
10/2/2024
11/2/2024
12/2/2024
1/2/2025
1/22/2025
2/19/2025

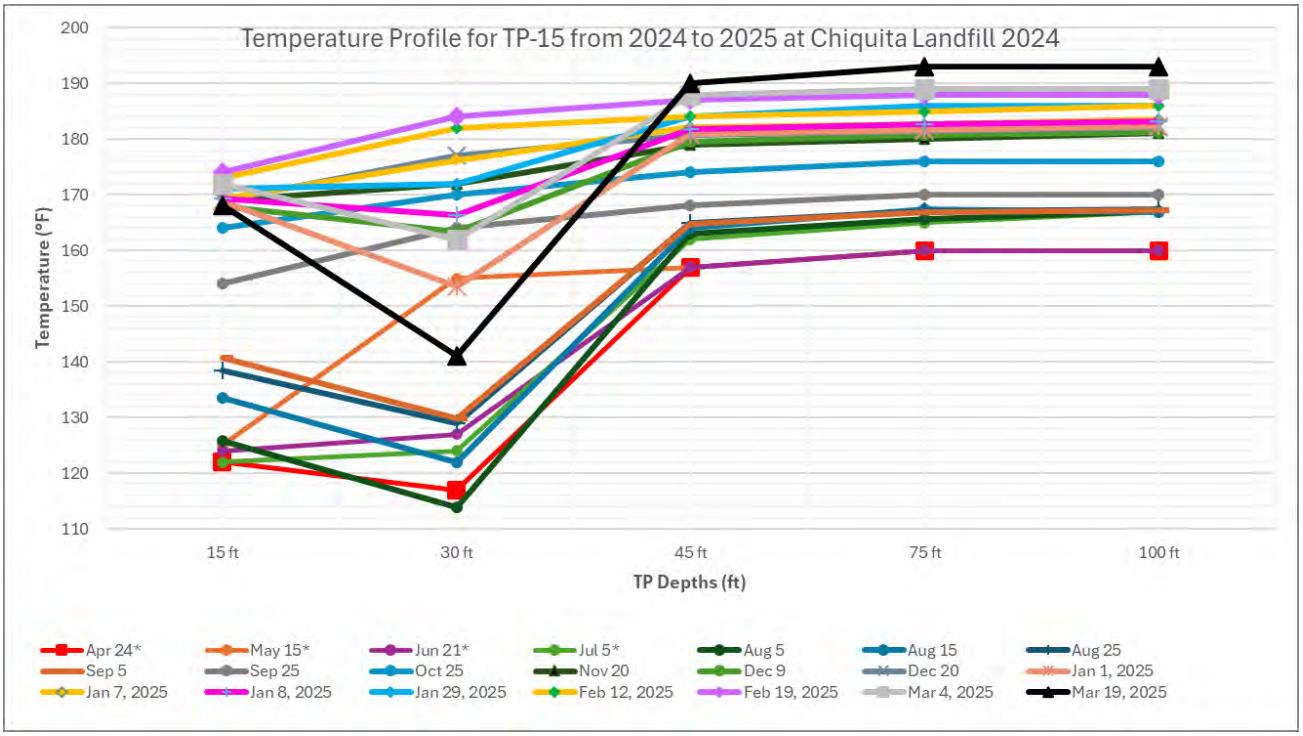
TP-13


Temperature Profile for TP-13 for 2024 to 2025 at Chiquita Landfill
Temperature (°F)
170
160
150
140
130
120
110
100
15 ft
30 ft
45 ft
75 ft
100 ft
140 ft
TP Depths (ft)
Apr 24*
Jun 21*
Jul 5*
Jul 26*
Aug 5
Aug 15
Aug 25
Sep 5
Sep 25
Oct 31**
Nov 20
Dec 30
Jan 29, 2025
Feb 19, 2025

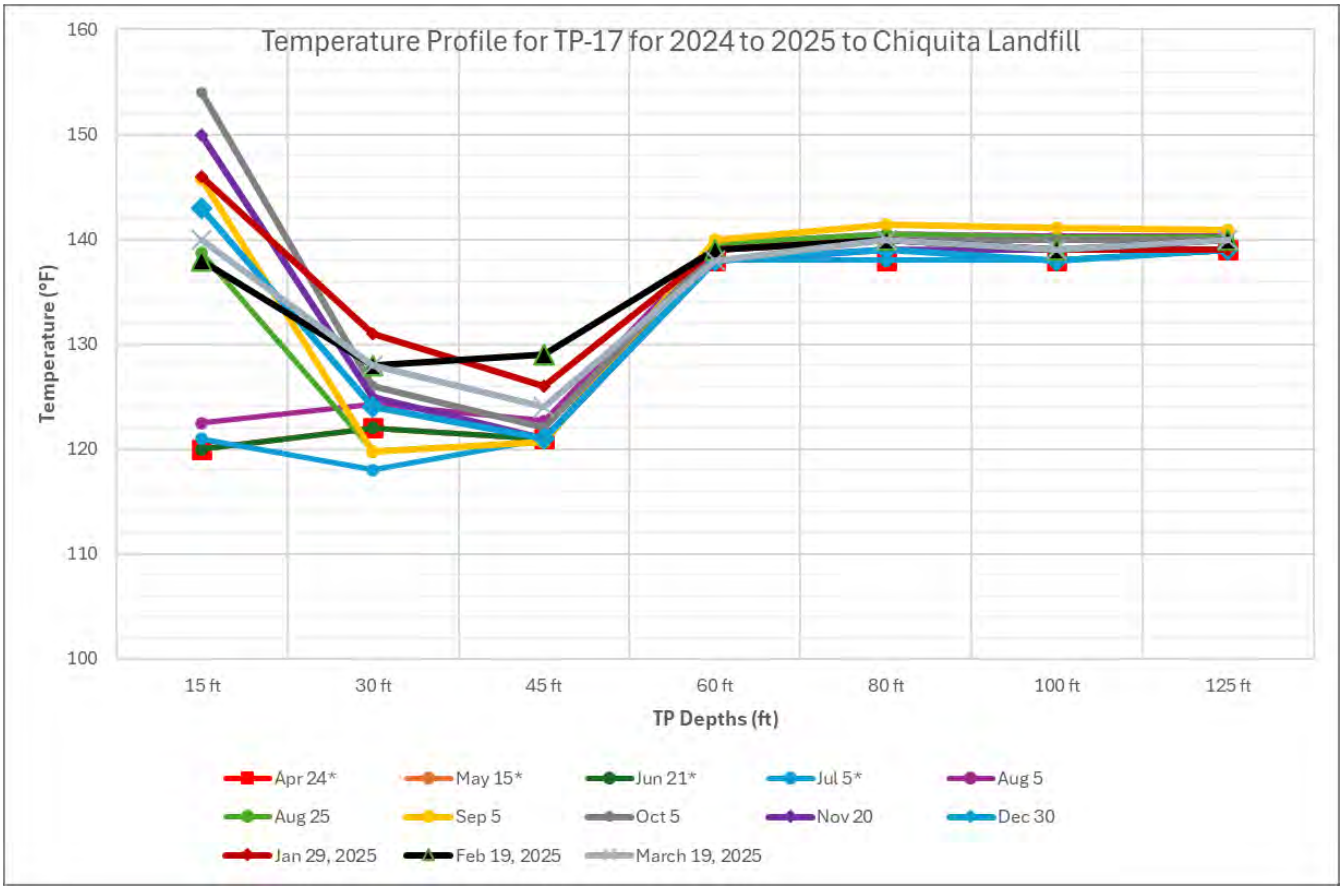
TP-14


Temperature Profile for TP-14 at Chiquita Canyon Landfill 2024 to 2025
Temperature (°F)
170
160
150
140
130
120
110
100
90
80
15 ft
30 ft
45 ft
75 ft
100 ft
125 ft
150 ft
TP Depths (ft)
Apr 24, 2024*
Aug 5, 2024
Sep 5, 2024
Sep 25, 2024
Oct 1, 2024
Nov 1, 2024
Dec 4, 2024
Jan 13, 2025
Feb 8, 2025
Mar 5, 2025
Mar 12, 2025
Mar 19, 2025

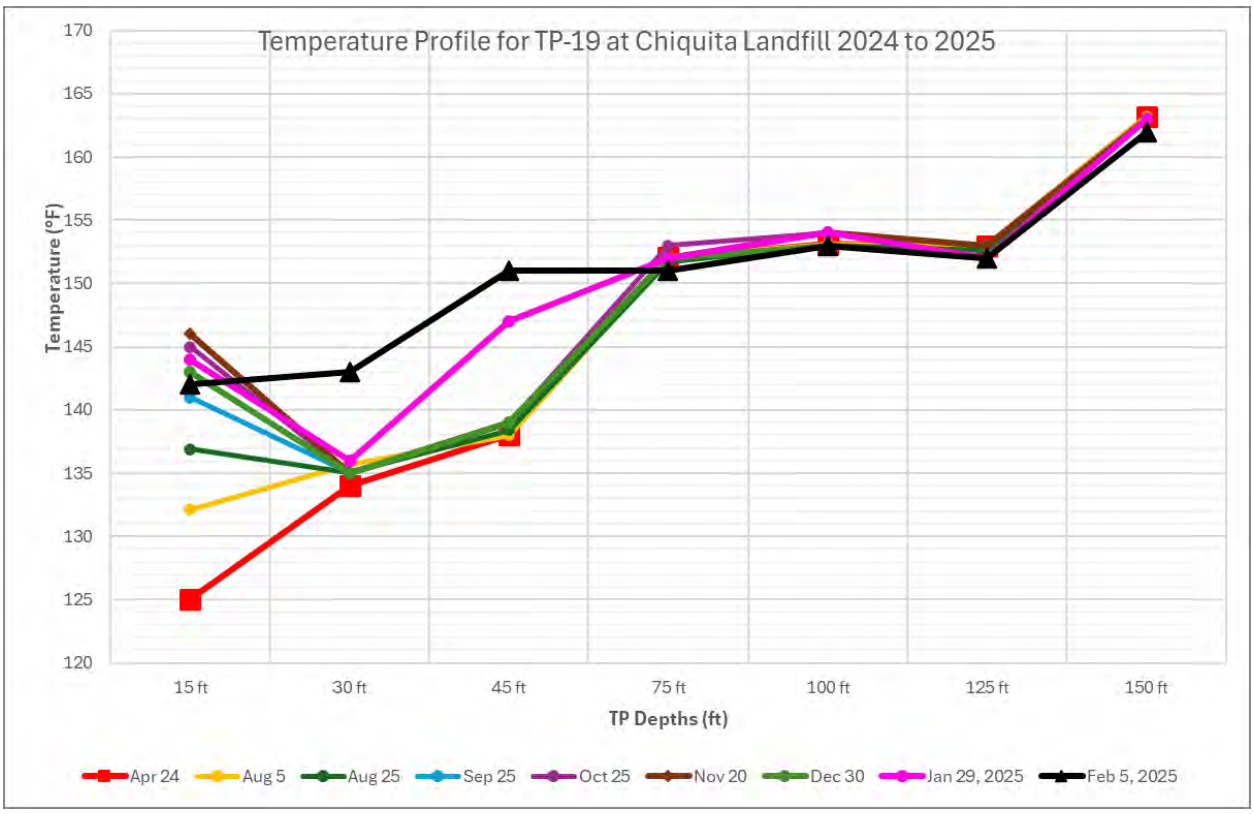
TP-15


Temperature Profile for TP-15 from 2024 to 2025 at Chiquita Landfill 2024
Temperature (°F)
200
190
180
170
160
150
140
130
120
110
15 ft
30 ft
45 ft
75 ft
100 ft
TP Depths (ft)
Apr 24*
May 15*
Jun 21*
Jul 5*
Aug 5
Aug 15
Aug 25
Sep 5
Sep 25
Oct 25
Nov 20
Dec 9
Dec 20
Jan 1, 2025
Jan 7, 2025
Jan 8, 2025
Jan 29, 2025
Feb 12, 2025
Feb 19, 2025
Mar 4, 2025
Mar 19, 2025

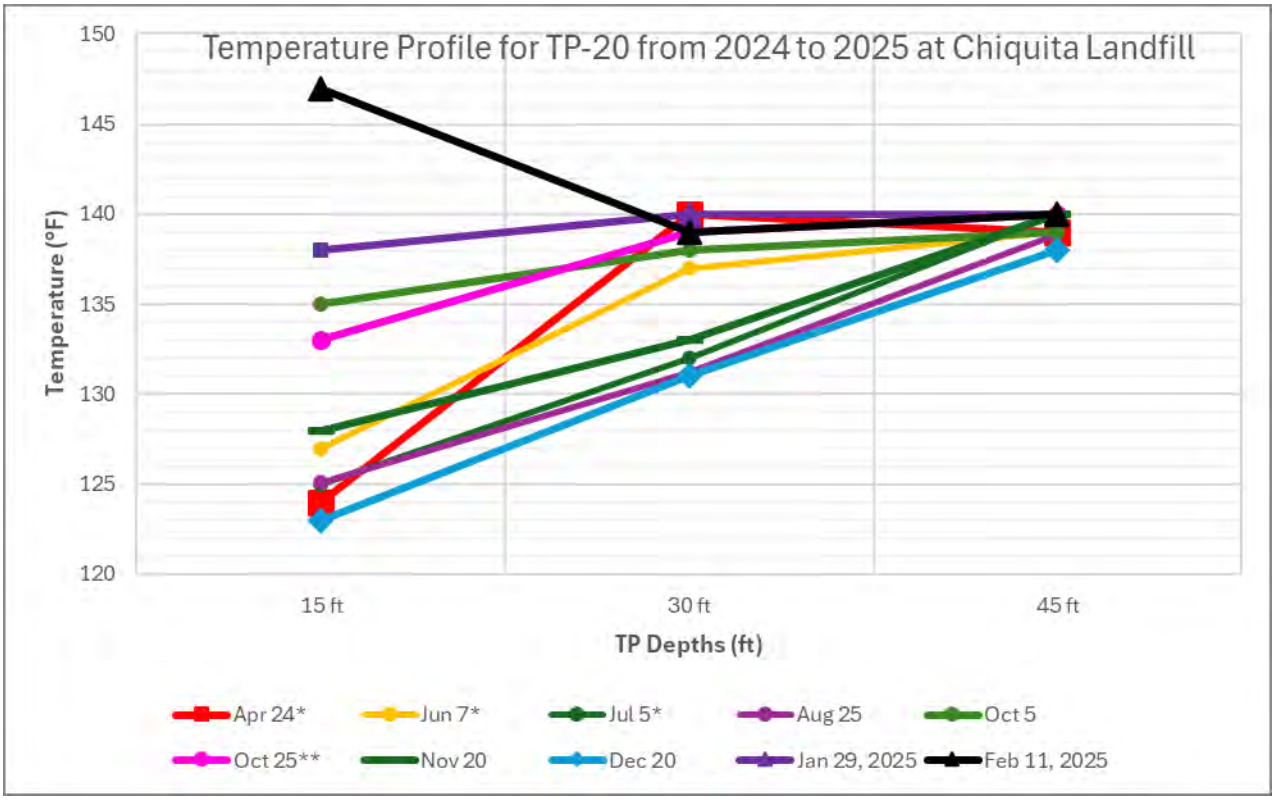
TP-17


Temperature Profile for TP-17 for 2024 to 2025 to Chiquita Landfill
160
150
140
130
120
110
100
Temperature (°F)
15 ft
30 ft
45 ft
60 ft
80 ft
100 ft
125 ft
TP Depths (ft)
Apr 24*
May 15*
Jun 21*
Jul 5*
Aug 5
Aug 25
Sep 5
Oct 5
Nov 20
Dec 30
Jan 29, 2025
Feb 19, 2025
March 19, 2025

TP-19


Temperature Profile for TP-19 at Chiquita Landfill 2024 to 2025
Temperature (°F)
170
165
160
155
150
145
140
135
130
125
120
15 ft
30 ft
45 ft
75 ft
100 ft
125 ft
150 ft
TP Depths (ft)
Apr 24
Aug 5
Aug 25
Sep 25
Oct 25
Nov 20
Dec 30
Jan 29, 2025
Feb 5, 2025

TP-20


Temperature Profile for TP-20 from 2024 to 2025 at Chiquita Landfill
Temperature (°F)
150
145
140
135
130
125
120
15 ft
30 ft
45 ft
TP Depths (ft)
Apr 24*
Jun 7*
Jul 5*
Aug 25
Oct 5
Oct 25**
Nov 20
Dec 20
Jan 29, 2025
Feb 11, 2025

Attachment C

Technical Memorandum from Dr. Stark dated February 26, 2025

TIMOTHY D. STARK, Ph.D., P.E., BC.GE

Stark Consultants, Inc., 401 W. Indiana Avenue, Urbana, Illinois, 61803; tstark32@gmail.com; (217) 840 - 8263

To: Mr. Matthew Dwyer
Senior Project Manager
Regional Manager
Engineering/Remediation Resources Group, Inc. (ERRG, Inc.)
9727 Business Park Drive, Suite A
Sacramento, CA 95827
matthew.dwyer@errg.com

From: Timothy Stark, Ph.D., P.E., BC.GE, Dist.M.ASCE

Date: February 26, 2025

RE: Comments on November 26, 2024 Revised Soil Reaction Break/Barrier Plan and February 20, 2025 waste temperature data for Chiquita Canyon Landfill Subsurface Elevated Temperature (SET) Event

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Pursuant to your request and Task Order #1 under my contract with ERRG, I have reviewed the November 26, 2024 Revised Soil Reaction Break/Barrier Plan[1], waste temperature data provided by SCS dated February 20, 2025[2], and the weekly tracking of fissures and tension cracks in the impacted area dated February 17, 2025[3] and submitted by the Chiquita Canyon Landfill (CCL) operated by Waste Connections, Incorporated to the Legal Enforcement Agency (LEA) on February 25, 2025.

Landfill Location and Description:

The CCL is located at 29,201 Henry Mayo Drive, Castaic, California, in northern Los Angeles County. This facility is a Class III non-hazardous municipal solid waste (MSW) landfill. The 639-acre landfill site began accepting waste in 1972. The landfill can receive up to 12,000 tons of MSW per day. The average daily tonnage in 2021 was reported to be 6,412 tons. The CCL only accepts non-hazardous solid waste for disposal, including municipal solid waste, green waste for composting or recycling, construction and demolition debris, and e-waste for recycling. The facility is prohibited from accepting hazardous waste that is ignitable, corrosive, reactive, or toxic. The landfill also does not accept biohazardous waste, household hazardous waste, radioactive materials, incinerator ash, sludge, automobile shredder fluff, or liquid waste.

The landfill site is a former limestone quarrying and crushing operation which began in 1939 and ended in 1988. The quarrying resulted in two quarry pits, the North Quarry Pit and the South Quarry Pit, which were excavated to a maximum depth of 240 feet below ground surface (bgs). The north and south quarry portions cover an area of approximately 52 acres.

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[1] SCS Engineers, Revised Soil Reaction Break/Barrier Plan: Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, November 26, 2024, 198 p.
[2] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.
[3] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

Landfilling began in the North Quarry Pit in 1974 and continued in this area until 1985. In 1985, the landfill underwent expansion to the southwest into the area known as the South Quarry Pit. This continued until August 2005 when the landfill stopped accepting waste to reduce the potential for birds to interfere with nearby airport operations. The total waste thickness is approximately 320 feet which means about 80 feet is above ground surface and about 240 feet is below ground surface. The landfill accepted approximately 17,000,000 in-place cubic yards of waste, including commercial, and municipal solid wastes.

The permitted landfill disposal footprint totals 257 acres and is comprised of three separate areas designated as "Primary" Canyon, "Canyon B," and the Main Canyon (including Canyons A, C, D and subsequent fill modules). Currently, 231 acres of the footprint have been used for disposal. All areas except the Primary Canyon have geosynthetic bottom liner systems and leachate collection and removal systems. Leachate is collected and trucked off-site, but condensate from the gas extraction wells is injected into the flare.

Revised Barrier Plan:

The Revised Barrier Plan states a:

> "discrete portion of the waste mass in the northwestern section of the Landfill is experiencing elevated temperature landfill (ETLF) conditions. ETLF conditions can generally be characterized as when the typical waste decomposition processes and corresponding methanogenesis associated with anaerobic digestion of organic solid waste materials disposed in a landfill are impeded because of heat accumulation. As a result, certain abiotic (non-biological) processes and chemical reactions within the buried wastes occur instead."

Even though SCS Engineers (SCS) claims the Subsurface Elevated Temperature (SET) Event only is impacting a "discrete portion of the waste mass", they review five options for isolating and containing the SET Event to impede heat flow into other adjacent portions of the waste mass. These five options are:

(1) Air Break through avoidance of placement of additional waste lifts overlying existing buried wastes.

(2) Air Break through excavation to "cut out" existing buried wastes.

(3) Soil Barrier through placement of soil layer atop existing landfill surface.

(4) Soil Barrier through excavation and backfilling of a deep trench.

5) Inert Material Barrier through Borehole Drilling, Dewatering, and Flowable Fill Injection.

SCS concludes an air break through avoidance of additional waste placement (option #1) or excavation (option #2) are "implausible" and thus are not being pursued by CCL. In addition, SCS deemed option #4 (soil barrier through excavation and backfilling) "implausible", and the technology involved in introducing an inert material for Option #5 "uncertain". As a result, options #4 and #5 are not being pursued by CCL.

Option #3 was deemed by SCS to be the "most plausible and may accomplish the desired objective without incurring substantial environmental and safety risks." Option #3 simply involves placing additional soil over the top of the landfill, i.e., to create a thicker soil cover. This option will be less effective for controlling odors and emissions from CCL than a geomembrane cover (discussed below) because of many issues including inadequate soil compaction especially on the sideslopes, differential settlement causing cracks in the soil cover, and creation of desiccation cracks during the hot and dry months.

The Revised Soil Reaction Break/Barrier Plan[4] was issued on November 26, 2024, which is important because CCL claims:

> "CCL has implemented extensive mitigation measures that reduce the likelihood that CCL will need to construct any form of the various reaction break concepts, including CCL's proposed additional mitigation measures. Previous experience at other ETLF landfills demonstrates that landfill reactions and resulting odors have been mitigated by best management practices, including increased gas extraction and liquid removal (e.g., through expanding systems and providing adequate LFG control capacity and leachate disposal capacity). Another best management practice is to improve cover integrity, which reduces infiltration of precipitation and limits the amount of excess liquids available to sustain various chemical reactions. Implementing these measures will help slow the reaction, impede the spread of the reaction to new areas, and mitigate impacts."

> "Further, Chiquita is constantly monitoring the landfill for signs of potential ETLF conditions so that it can react quickly in the event of changing conditions. CCL and SCS are confident that implementation of the best management practices developed by the landfill industry and EPA to contain and manage the reaction will succeed in slowing the propagation of the reaction area. Other landfills that have experienced widespread ETLF heating events during the past approximately 15 years have

[4] SCS Engineers, Revised Soil Reaction Break/Barrier Plan: Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, November 26, 2024, 198 p.

> successfully utilized these tools to contain those events. Continued application of the current mitigation measures will result in cooling of the buried wastes, which enable methanogenesis to ultimately be re-initiated within a large section of the affected waste mass. This in turn will mitigate and abate the detrimental impacts, such as odors, being experienced by surrounding off-site communities."

Unfortunately, the waste temperature data released on February 20, 2025[5] shows these "best management practices" have not "helped slow the reaction, impede the spread of the reaction to new areas, and mitigate impacts" as claimed by CCL and SCS above, as discussed in the next section. In summary, the removal of "hot" gas and leachate has not been successful in containing the SET Event.

Summary of Recent Temperature Data

SCS presents Waste Borehole Maximum Temperature Profiles Over 6 Weeks from January 9, 2025 to February 19, 2025.[6] An aerial image of CCL with a table of maximum temperatures is included in the subject SCS Report and reproduced in **Figure 1**. I have placed the maximum waste temperature from the table in **Figure 1** adjacent to some of the gas extraction wells to facilitate understanding the extent of the SET Event, especially on the east side of CCL. **Figure 1** shows waste temperatures of 183^0F and 185^0F at the eastern side of the top deck of the CCL. This means the SET Event has migrated from the western slope (TP03) to the eastern side of the CCL (TP31). Expansion of the SET Event has the following implications:

- Elevated temperatures (185^0F to 189^0F) surround the leachate tank farm (see red arrow in **Figure 1**). This area is going to undergo significant settlement, if it has not already started to do so, due to thermal breakdown of the buried waste. This settlement will cause differential movement of the leachate tanks, which could result in a leachate release. As a result, I recommend the leachate tank farm be moved off the top deck and to a site off the CCL and on native soil because the SET Event continues to expand.

- Waste temperatures of 183^0F and 185^0F are already present on the eastern side of the top deck of the CCL. As a result, it is not possible to "isolate and contain" this SET Event using a north-south vertical barrier as previously discussed. Thus, the only option for controlling odors and emissions is to cover the area with a geomembrane (discussed below) over which the temperature monitoring probes (TPs) have been installed. This means the geomembrane should cover from the west to the east side of the CCL and from the north

[5] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.
[6] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.

end to just south of TP06 shown in **Figure 1**. In other words, the exposed geomembrane cover would cover about 183 acres and leave only about 13 acres at the southern end of the CCL uncovered for current disposal operations.

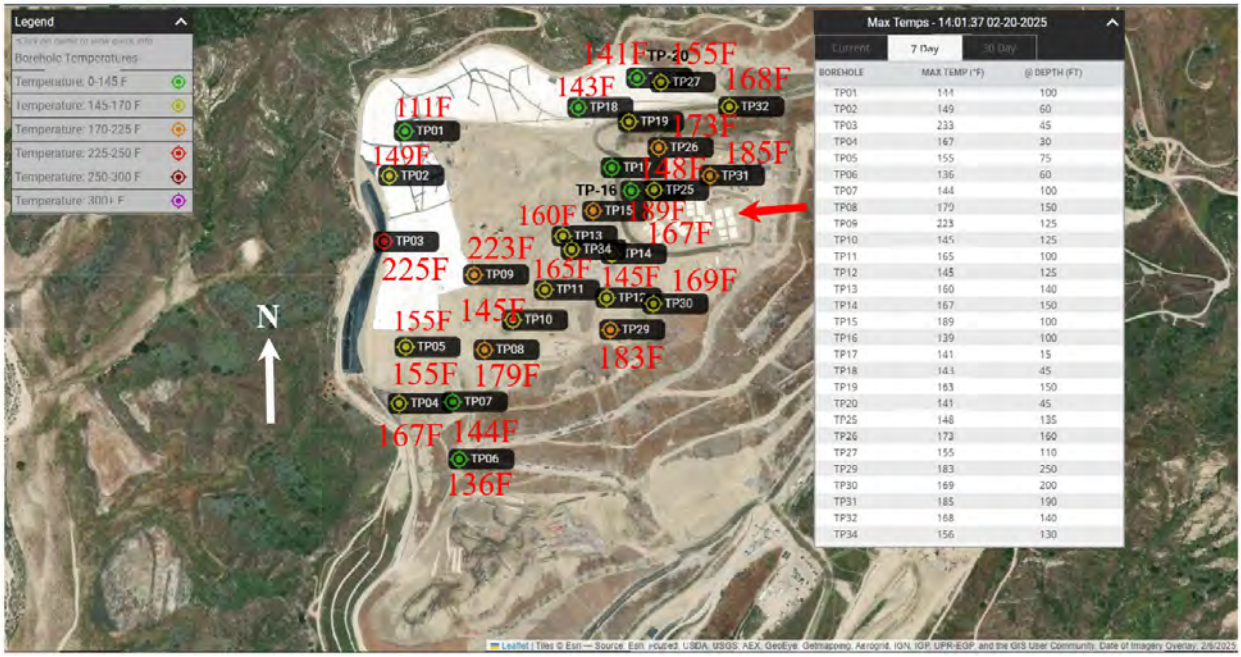

Figure 1. Temperature profiles over six weeks from 1/9/2025 to 2/19/2025 from SCS report dated February 20, 2025.

Figure 2 presents Sheet #1 from the SCS Report that presents the Waste Borehole Maximum Temperature Profiles Over 6 Weeks from January 9, 2025 to February 19, 2025.[7] The dashed pink line represents the extent of the SET Event as determined by SCS on February 20, 2025. This extent is slightly larger than the dashed blue line, which represents the extent of the SET Event on March 27, 2024 as reported by SCS in the initial Soil Reaction Break/Barrier Plan.[8] **Figure 2** also presents my extent of the SET Event as of February 26, 2025 (see dashed red line) based on the Waste Borehole Maximum Temperature Profiles Over 6 Weeks from January 9, 2025 to February 19, 2025.[9] **Figure 2** shows the western slope and entire top deck of the CCL is now part of the

[7] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.
[8] SCS Engineers, Soil Reaction Break/Barrier Plan, Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, March 27, 2024, 17 p.
[9] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.

SET Event, which is a significant increase over the extent reported by SCS on March 27, 2024[10] and February 20, 2025.[11] Based on **Figure 2**, SCS believes the SET Event only covers about 28 acres as of February 20, 2025 whereas my extent of the SET Event covers about 90 acres.

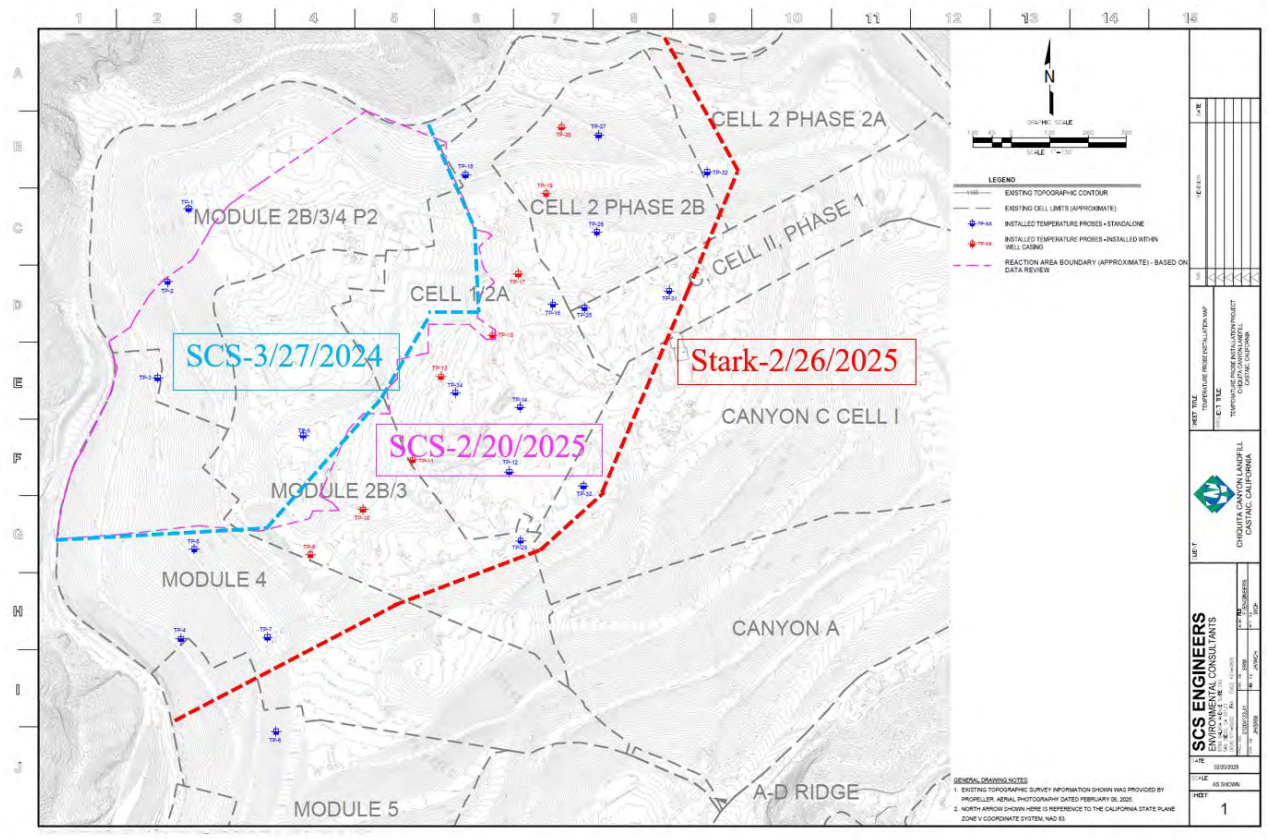

Figure 2. Extent of elevated temperatures from March 27, 2024 to February 26, 2025.

[10] SCS Engineers, Soil Reaction Break/Barrier Plan, Chiquita Canyon Landfill, Castaic, California, South Coast AQMD Facility No. 119219, Project #: 01204123.21-13, March 27, 2024, 17 p.
[11] SCS Engineers, Solid Waste Borehole Maximum Temperature Profiles Over 6 Weeks for 1/9/2025 to 2/19/2025, Project #: 07224053.00, February 20, 2025, 31 p.

Weekly Fissures and Tension Cracks Report Dated February 17, 2025

CCL also presented their 4050 – Chiquita Reaction Area Tracking of Fissures and Tension Cracks weekly report on February 17, 2025[12]. This report presents: (1) observations of new fissures and tension cracks, which are usually due to landfill settlement and/or slope instability, (2) exposed geomembrane tears and defects, and (3) other geosynthetic cover issues.

This weekly report dated February 17, 2025[13] confirms that settlement has started to occur around the leachate tank farm, which reinforces the recommendation above that the tanks should be moved off the top deck and to a site off the CCL and on native soil. In particular, Area #148, which is just north of the tank farm (see red dot in **Figure 3**), experienced opening of significant fissures and tensions cracks that have been remediated but are likely to reappear as additional buried waste undergoes thermal breakdown. Area #154, which is located just south of the tank farm (see **Figure 3**), also recently experienced fissuring and tension crack development. Even more concerning is Area #147 experienced a significant sinkhole, which indicates a significant thermal breakdown of buried waste that resulted in a void developing below the interim soil cover. Area #147 is the next grid area north of Area #148.

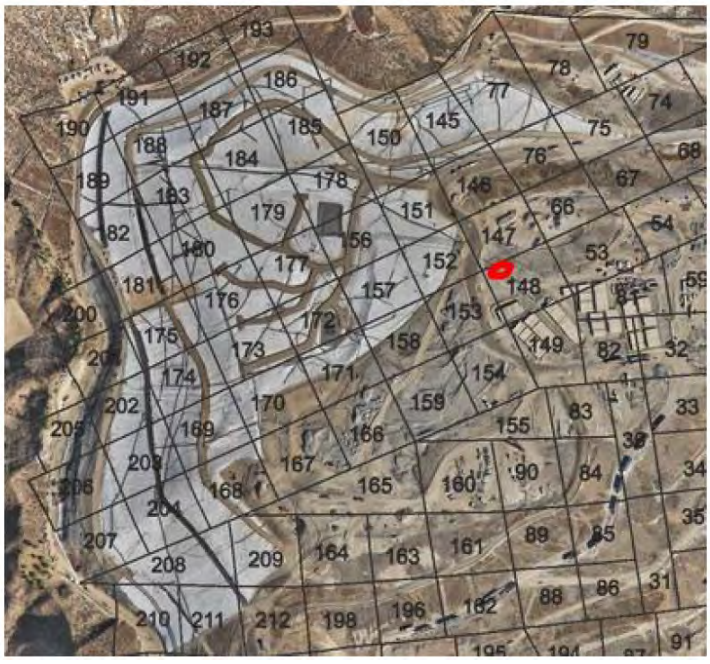

Figure 3. Red dot shows location for fissures and tension cracks identified in weekly CCL report dated February 17, 2025[14].

[12] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[13] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[14] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

Figure 4 shows a tension crack in Grid #148 near the leachate tank farm on the top deck of the CCL. This photograph also reinforces the recommendation above that the tanks should be moved off the CCL. This photograph was taken during a South Coast Air Quality Management District (SCAMD), Inspection of the CCL on February 27, 2025.

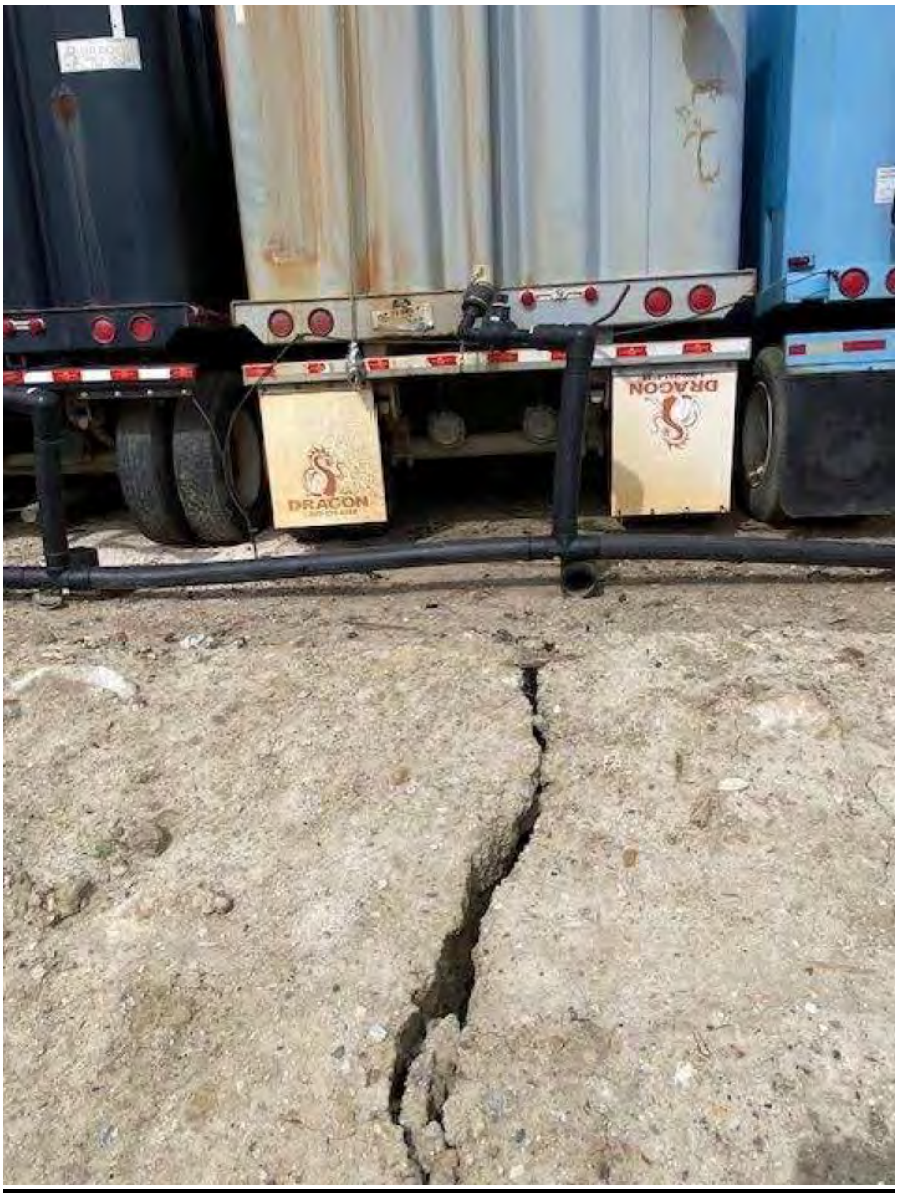

Figure 4. Photograph of tension crack in Grid #148 near leachate tanks on top of CCL dated February 27, 2025[15].

[15] South Coast Air Quality Management District (SCAMD), Inspection Report - Chiquita Canyon Landfill, by Larry Israel, Gerardo Vergara, and Christin Ojeda, February 27, 2025, 21 p.

The weekly report dated February 17, 2025[16] also discusses recent tears and defects in the exposed 30 mil thick white HDPE geomembrane cover. In particular, this weekly report presents photographs of four significant tears in the exposed geomembrane. For example, **Figure 5** presents two of these tears, which were repaired using an extrusion welded patch. Unfortunately, the location of these two tears is not identified in the weekly report dated February 17, 2025[17]. This indicates the 30-mil thick white HDPE geomembrane may be deteriorating in the presence of the SET Event temperatures and related activities and equipment, which is discussed below.

Figure 5. Photographs of exposed geomembrane tears identified in weekly CCL report dated February 17, 2025[18].

The weekly report dated February 17, 2025[19] also discusses other "Geosynthetic Cover" issues. In particular, this report presents fourteen photographs illustrating "instability under the cover".

[16] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[17] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[18] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.
[19] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

For example, **Figure 6** presents two of these photographs, which show settlement under the geomembrane due to thermal breakdown of the buried waste.

Figure 6. Photographs of other exposed geomembrane issues identified in weekly CCL report dated February 17, 2025[20].

Temporary Exposed Geomembrane Cover

Given the west side and top deck of the CCL are experiencing elevated temperature, I unfortunately think the only remedial option is to cover the entire landfill north of TP06 or north of the red and blue dashed line shown in **Figure 7**. The elevated temperatures have not manifested themselves on the eastern slope yet, but I anticipate leachate outbreaks could start occurring because elevated temperatures (183^0F and 185^0F as shown in **Figure 1**) are present at the crest of the eastern slope.

Currently, CCL is using a 30-mil thick high-density polyethylene (HDPE) geomembrane with a white reflective and textured surface. This geomembrane was manufactured by Solmax and shipped in 22.5 ft wide rolls from Canada to the CCL. An Ethylene Vinyl Alcohol (EVOH) geomembrane has been found to be better at containing odors and omissions during other long-term SET Events, e.g., Bridgeton Landfill. EVOH geomembranes are manufactured as a "sandwich" with the outside layers comprised of HDPE with an inner layer of semi-crystalline thermoplastic resin that resists odor and gas transmission.

Bridgeton Landfill near St. Louis has been experiencing a SET Event since 2011 and is covered with green colored 60 mil thick EVOH geomembrane. Given there is no mechanism to "isolate and contain" the CCL SET Event, I am anticipating this facility will continue to generate odors and emissions for many years to come. As a result, I recommend the CCL consider installing an

[20] Chiquita Canyon, Weekly Report - 4050 Chiquita Reaction Area Tracking of Fissures and Tension Cracks, by Nancy Bahena Hernandez, February 17, 2025, 39 p.

exposed EVOH geomembrane over the area to the north of the red and blue dashed line shown in **Figure 7**.

The exposed EVOH geomembrane could consist of a tan (easier to UV stabilize, reduces heat, and better matches dry surroundings) or green (less visible during wet periods) 40 or 60 mil thick EVOH textured geomembrane underlain be a minimum 6 ounce per square yard (oz/sy) nonwoven geotextile. A tan EVOH geomembrane color is recommended because there are number of tan geomembranes that have been in exposed for a number of years, so a suitable UV stabilized formulation is available.

The EVOH geomembrane should be continuously seamed and continuously tied into the existing exposed 30 mil HDPE geomembrane cover along the top deck. The EVOH geomembrane can be welded to the existing 30 mil thick HDPE exposed geomembrane because the outside layers are comprised of HDPE and thus can be welded with traditional HDPE welding equipment. As the existing 30-mil thick exposed white HDPE geomembrane deteriorates with time, it should be replaced with the selected EVOH geomembrane.

The selected EVOH geomembrane (GM) should have a life span of about 10 years due to the large amount of waste that is being impacting by the SET Event. Given the long and steep slopes, a double-sided textured EVOH GM may be required. However, to facilitate walking on the EVOH GM, the exposed side should probably be textured. The EVOH GM also should be able to withstand a temperature of about 180^0F because TP15 is showing a waste temperature of 175^0F at a depth of only 15 feet. Finally, the EVOH GM should exhibit a methane permeance of less than $2.5x10^{-13}$ m/s obtained using ASTM D1434[21] to control benzene and other emissions.

The total area proposed for the EVOH geomembrane cover is about 100 acres, i.e., the area not covered with the 30-mil thick white HDPE geomembrane. The nonwoven geotextile underlying the EVOH geomembrane will be installed on a prepared subgrade and provide a cushion and gas and liquid transmission layer under the geomembrane. Alternatively, a geonet with two heat-bonded nonwoven geotextiles could underlie the EVOH geomembrane and provide a higher transmissivity than a geotextile.

The EVOH geomembrane could be installed by deploying the manufactured rolls across the top deck and down the sideslopes. The perimeter edge of the new EVOH geomembrane cover will either be welded to the existing 30 mil thick white HDPE geomembrane or anchored along the perimeter of the CCL. Of course, the CCL should design appropriate long-term ballasting for the existing HDPE geomembrane and the proposed EVOH geomembrane because of the long duration of other SET Events. The EVOH geomembrane should be installed by an experienced contractor

[21] ASTM D1434-23, Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting, ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428, https://compass.astm.org/document/?contentCode=ASTM%7CD1434-23%7Cen-US&proxycl=https%3A%2F%2Fsecure.astm.org&fromLogin=true.

and crews in accordance with CCL project specifications and an accompanying QA/QC Plan. Given the long-term application of the EVOH geomembrane, the installation should be monitored in accordance with the QA/QC Plan by an experienced third-party engineering firm. A final certification report should be prepared under the direction of a certified engineer and be submitted to the CCL and proper local authority, e.g., Los Angles Regional Water Quality Control.

Pipe penetrations of the HDPE and EVOH geomembrane cover should be sealed utilizing a suitable pipe boot and pipe clamp or seal. These boots can be the source of significant odor release and/or oxygen intrusion so these pipe boots and seals should be inspected and monitored regularly for vapor emissions so defects due to total and differential can be remediated quickly.

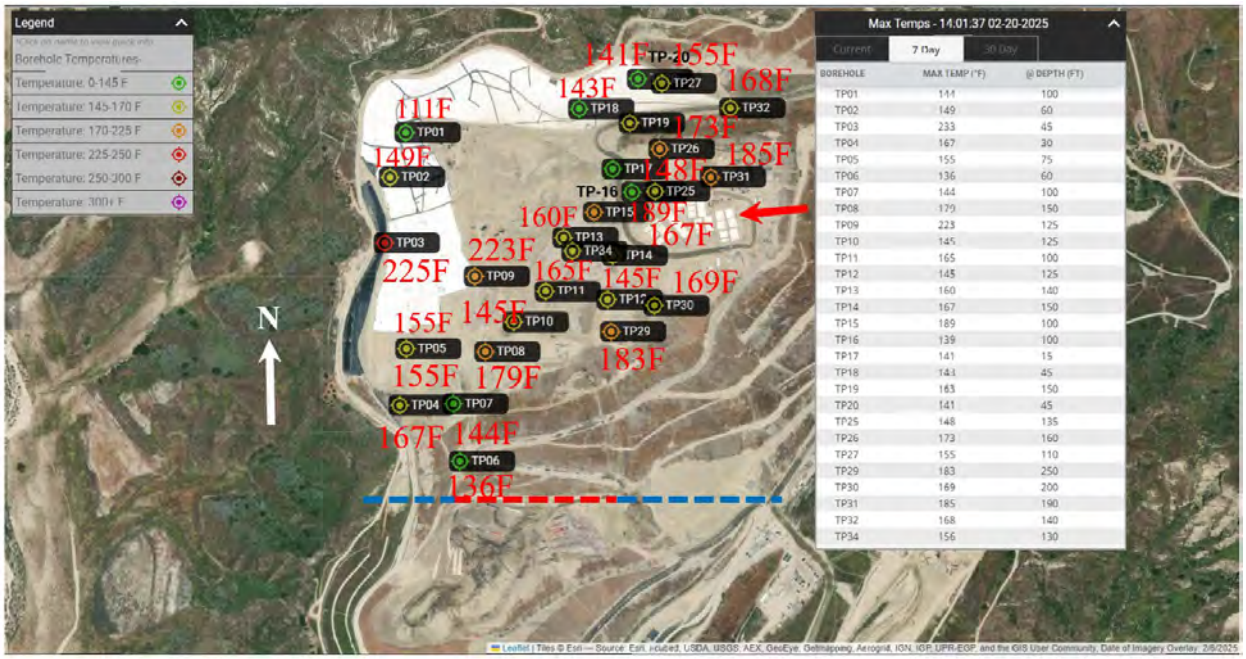

Figure 7. Extent of elevated temperatures on February 26, 2025 and location of a possible vertical barrier to isolate southernmost 13 acres.

Proposed Vertical Barrier

This section discusses installing a thermal barrier south of TP06 (see dashed red and blue line in **Figure 7**). A thermal barrier is recommended along the dashed red and blue line in **Figure 7** for at least the following reasons:

- CCL is using the approximately 13 acres south of the dashed red and blue line in **Figure 7** for disposal operations so elevated temperatures should be prevented from reaching this area, so the landfill continues to have an area to dispose of on-site wastes.

- Ensure continued ingress and egress from the CCL.

- Reduce the amount of waste that can be consumed by the SET Event and thus reduce the duration of odors and emissions to the surrounding communities.

- Maintain stability of the southern sideslope.

The red dashed line in **Figure 7** roughly delineates the location of a thermal barrier already constructed by CCL. The extent and depth of the thermal barrier are not known, so I request this information be provided by CCL. The blue dashed lines in **Figure 7** indicate the existing thermal barrier should be extended east and west so the SET Event cannot go around or under the existing thermal barrier.

If the existing thermal barrier does not extend to near below the leachate level, vertical elements can be used to create a vertical thermal barrier to prevent the SET Event from impacting the southernmost 13 acres of the CCL. The vertical elements involve excavating a vertical shaft using a three or four-foot bucket auger drill rig, which is being used to install gas extraction wells at CCL. These vertical elements would be constructed along the dashed red and blue lines in **Figure 7**. After excavating the shaft, it could be backfilled with a soil-bentonite or soil-cement mix. The shafts would be tangent, i.e., touching, or overlapped (see **Figure 7**) to create a continuous barrier across the toe of the southern sideslope to prevent the SET Event from consuming the southernmost 13 acres. If heat transfer calculations require a wider thermal barrier, a second row of vertical elements could be constructed north or south of the initial row (see **Figure 7**). The secondary row would be tangent to the initial row and be centered at each intersection of the initial row as shown below (see **Figure 7**).

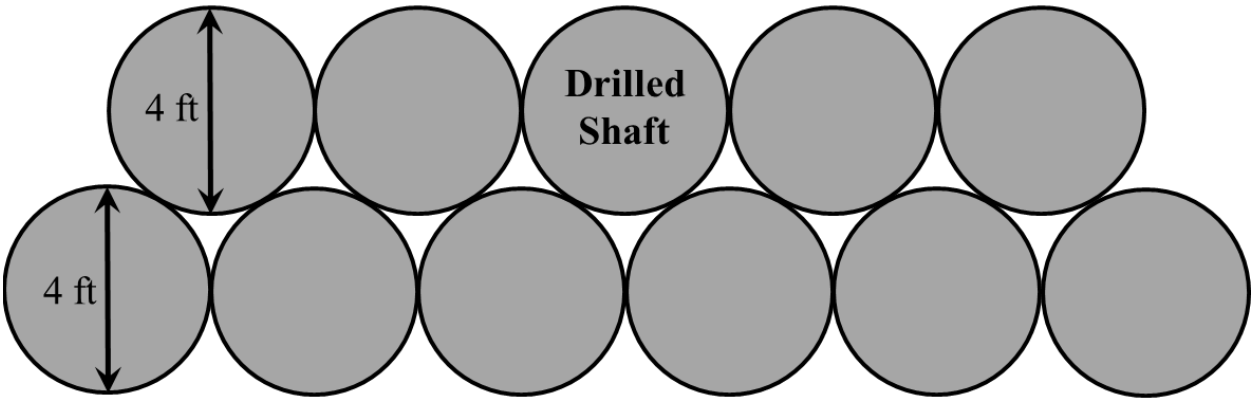

Figure 8. Possible configurations of 3 to 4 ft diameter vertical elements to comprise a heat barrier system south of TP06 to isolate southernmost 13 acres.

Summary

This section summarizes the main findings and recommendations presented in this report:

1. SET Event has expanded to the east side of the top deck of the CCL,
2. Leachate Tank Farm should be relocated off the top deck because the CCL is undergoing settlement under the tanks,
3. Due to the movement of the SET Event, the Tank Farm should be relocated to a site off the CCL and on native soil,
4. Given the extent of the SET Event, install 40 or 60 mil thick tan or green HDPE EVOH textured geomembrane underlain by a minimum 6 ounce per square yard (oz/sy) nonwoven geotextile over the approximately 100 acres currently exposed and weld it to the existing 30-mil thick white HDPE geomembrane or place it in a suitable anchor trench,
5. Submit a Request For Information (RFI) regarding the current extent and depth of the thermal barrier installed near the southern end of the CCL (see red dashed line in **Figure 7**), and
6. Expand the current thermal barrier so it reduces the potential for the SET Event to impact the southernmost 13 acres of the CCL.

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March 19, 2025

Via Electronic Correspondence

Mr. Steve Cassulo, District Manager
steven.cassulo@wasteconnections.com
Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, CA 91384

SUBJECT: LEA RESPONSE TO CHIQUITA CANYON LANDFILL'S REQUEST TO RELOCATE TP-33 FROM PROPOSED TMPS IDENTIFIED IN REVISED SOIL REACTION BREAK/BARRIER PLAN AND RECENT WEEKLY REPORTING OF INSTALLATION OF TMPS– CHIQUITA CANYON LANDFILL (SWIS NO. 19-AA-0052)

Dear Mr. Cassulo,

The Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), is responding to Chiquita Canyon Landfill's (CCL) *Response to LEA Letter Regarding Removal of TP-33 from Proposed TMPs Identified in Revised Soil Reaction Break/Barrier Plan* (Request), dated January 29, 2025, in which CCL requests the removal of TP-33 from the proposed well list.

On December 30, 2024, the LEA issued a letter approving the proposed relocations for temperature monitoring probes (TMPs) TP-21, TP-22 and TP-23 and provided an alternate location for TP-33 (see enclosed LEA letter and figure). In response, CCL submitted a letter dated January 29, 2025, reaffirming its request to remove TP-33 from the proposed well list, stating that, among other reasons, the installation of TP-33 would be redundant because there are several other TMPs located in the adjacent area that could serve the same purpose.

The LEA, in collaboration with the California Department of Resources Recycling and Recovery (CalRecycle), has reviewed the Request and continues to require the installation of TP-33. Given the recent movement of the reaction, which now includes TP-15 and the area north of TP-17, TP-33 will provide critical temperature data to assess the magnitude of the reaction.

Furthermore, the TMP weekly update as of March 12, 2025 notes that CCL suspended the installation of TP-22 and TP-23 until October 2025. This delay is not acceptable. CCL must proceed with the installation of TP-22 and TP-23 to their maximum reach/depth without further delay. According to CalRecycle, past Subsurface Elevated Temperature (SET) Events at other landfills have shown that leachate pumping alone is insufficient to lower liquid levels enough for borings to reach above the liner. Data from these locations are critical for tracking the movement of the reaction and determining the next steps.

In addition, all TMP installations must follow previous instructions regarding depth requirements. CCL changed TMP depths for the newly installed TMPs without notification or submittal of an updated plan, which is not acceptable. TMPs must be installed at the following depths: 15 feet, 30 feet, 45 feet, and 75 feet. Beyond 75 feet, additional TMP depths must be determined using the equation [(Max Boring Depth-75ft)/4)] rounded up to the nearest tenth or fifth. For example, if the maximum boring depth is 200 feet, the additional TMP depths must be 105 feet, 135 feet, 165 feet, and 200 feet.

Given these concerns, the LEA requires that TP-33 be installed as previously directed and that TP-22 and TP-23 be completed without further delay. Temperature monitoring remains a critical component of the compliance order, and deviations from installation requirements compromise the ability to effectively assess and respond to reaction conditions.

If you have any questions or need clarification, please contact Eric Morofuji at emorofuji@ph.lacounty.gov or (213) 668-2206.

Sincerely,

Eric Morofuji, EHS III
Solid Waste Management Program
Local Enforcement Agency (LEA)

Enclosed: LEA letter with figure dated December 30, 2024

Cc: (Via Electronic Correspondence Only)

- Robert Ragland, Los Angeles County Department of Public Health
- Liza Frias, Los Angeles County Department of Public Health
- Nichole Quick, M.D., Los Angeles County Department of Public Health
- Shikari Nakagawa-Ota, Los Angeles County Department of Public Health
- Ken Habaradas, Los Angeles County LEA
- Karen Gork, Los Angeles County LEA
- Renee Jensen, LEA Counsel (rjensen@fwhb.com)
- Blaine McPhillips, Senior Deputy County Counsel
- Emiko Thompson, Los Angeles County Department of Public Works

- Alex Garcia, Los Angeles County Department of Regional Planning
- Ai-Viet Huynh, Los Angeles County Department of Regional Planning
- Wes Mindermann, CalRecycle (wes.mindermann@calrecycle.ca.gov)
- Todd Thalhamer, CalRecycle (todd.thalhamer@calrecycle.ca.gov)
- Janelle Heinzler, CalRecycle (janelle.heinzler@calrecycle.ca.gov)
- Jeff Lindberg California Air Recourses Board (jeff.lindberg@arb.ca.gov)
- Jack Cheng, South Coast Air Quality Management Board (jcheng@aqmd.gov)
- Larry Israel, South Coast Air Quality Management Board (lisrael@aqmd.gov)
- Enrique Casas, Los Angeles Regional Water Quality Control Board (enrique.casas@waterbaords.ca.gov)
- Joel Jones, United States Environmental Protection Agency (Jones.Joel@epa.gov)
- Linda Lye, California Environmental Protection Agency (linda.lye@calepa.ca.gov)

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December 30, 2024

Via Electronic Correspondence

Nicole Ward
nicole.ward@wasteconnections.com
Assistant District Manager
Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, CA 91384

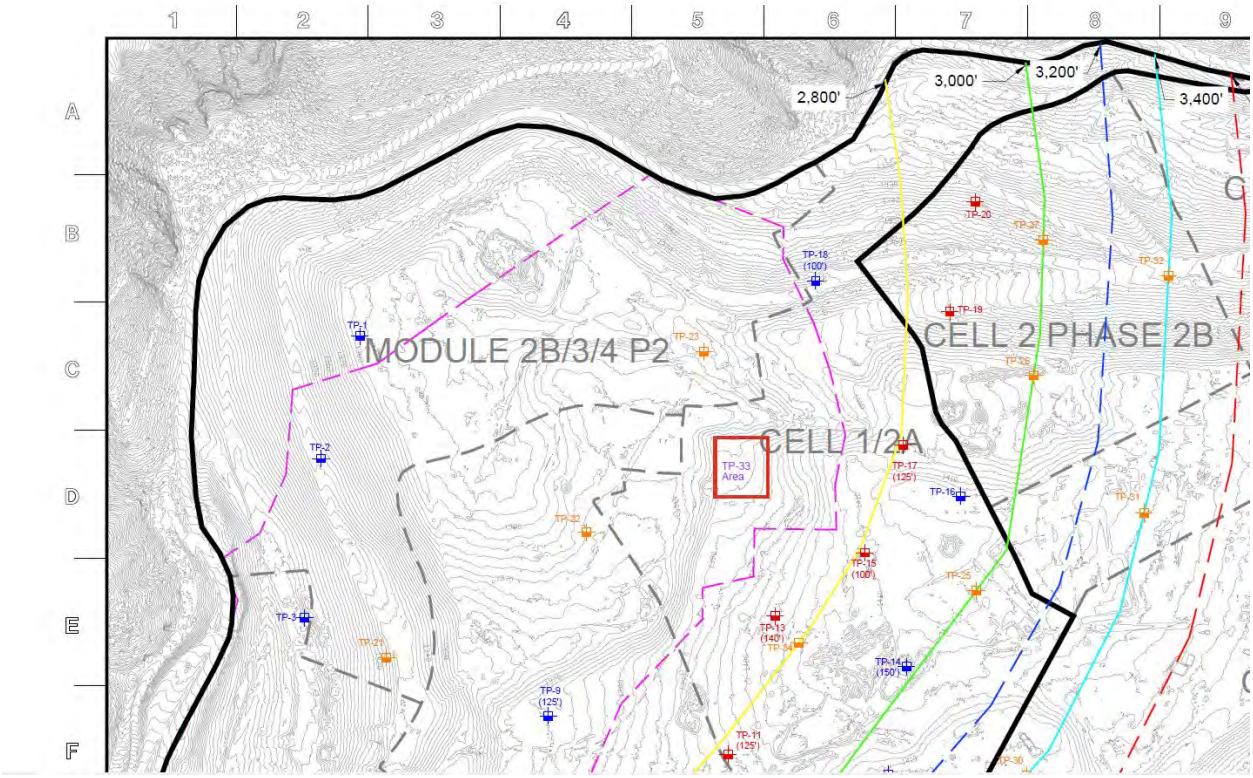
SUBJECT: LEA APPROVAL OF THE REVISED TEMPERATURE MONITORING PROBE (TMP) LOCATIONS WITH A REQUIREMENT TO RELOCATE TMP-33 – CHIQUITA CANYON LANDFILL (SWIS NO. 19-AA-0052)

Dear Ms. Ward,

On December 24. 2024, the Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), received Chiquita Canyon, LLC's (CCL) letter dated December 24, 2024, notifying the LEA of the revised locations for Temperature Monitoring Probes (TMPs) TP-21, TP-22 and TP-23, and the proposed removal of TP-33. The installation of TMPs is part of compliance with Milestone 1A-1 of the LEA Compliance Order dated June 6, 2024.

The LEA, in collaboration with California Department of Resources Recycling and Recovery (CalRecycle), has reviewed the letter and approves the proposed relocations for the TMPs, TP-21, TP-22 and TP-23.

Regarding TP-33, the LEA requires that it be relocated within the reaction zone near TMPs TP-13, TP-15, TP-17, and TP-19, where temperature spikes have been observed. The approximate location is indicated by the red box of the figure below. This area provides sufficient space for the setup of a sonic drill for the TMP installation. Revise the drill schedule to include the installation of TP-33 at this location.



Prioritize the installation of TMPs and provide weekly status updates as directed in the LEA's letter to CCL dated December 24, 2024, regarding Milestone 1A-1.

If you have any questions or require clarification, please contact Eric Morofuji at emorofuji@ph.lacounty.gov or (213) 668-2206.

Sincerely,

Karen Gork, Chief EHS
Solid Waste Management Program
Local Enforcement Agency (LEA)

Cc: (Via Electronic Correspondence Only)

- Steve Cassulo, Chiquita Canyon LLC (steven.cassulo@wasteconnections.com)
- Robert Ragland, Los Angeles County Department of Public Health
- Liza Frias, Los Angeles County Department of Public Health
- Nichole Quick, M.D., Los Angeles County Department of Public Health
- Shikari Nakagawa-Ota, Los Angeles County Department of Public Health

- Ken Habaradas, Los Angeles County LEA
- Eric Morofuji, Los Angeles County LEA
- Renee Jensen, LEA Counsel (rjensen@fwhb.com)
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- Joel Jones, United States Environmental Protection Agency (Jones.Joel@epa.gov)
- Linda Lye, California Environmental Protection Agency (linda.lye@calepa.ca.gov)

From:	Steve Cassulo
To:	Nicole Ward; Amanda Froman; Ken Habaradas; John Perkey
Cc:	Robert Ragland; Liza Frias; Nichole Quick; Shikari Nakagawa-Ota; Karen Gork; Eric Morofuji; Renee Jensen; Blaine McPhillips; Emiko Thompson; Alex Garcia; Wes.Mindermann@CalRecycle.ca.gov; Jeff.Lindberg@arb.ca.gov; Jcheng@aqmd.gov; lisrael@aqmd.gov; Holybee.Tyler@epa.gov; Relon.MarkAnthony@epa.gov; Friedli.Laura@epa.gov; Todd.Thalhamer@Calrecycle.ca.gov; Casas, Enrique@Waterboards; Phillip Chen; Steven Jareb
Subject:	RE: Chiquita Canyon Landfill – TMP Temperature Submittal
Date:	Thursday, March 27, 2025 7:30:59 PM
Attachments:	image001.png Borehole Profiles Six Week Maximum - 3-26-25.pdf Daily Maximum Temp Borehole Report Test - 3-26-25.xlsx

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CAUTION: External Email. Proceed Responsibly.

Dear Mr. Habaradas,

In accordance with the LEA's June 6, 2024 Compliance Order and related LEA correspondence, Chiquita Canyon, LLC (Chiquita) submits the attached weekly temperature graphs of all temperature monitoring probes (TMPs) with weekly maximum trends plotted over six weeks from February 13, 2025, through March 26, 2025, with a map of the maximum temperatures recorded in the past week and the below narrative on recorded temperature data. We included a separate map demonstrating the locations of the 28 temperature monitoring probes in relation to the reaction area boundary because the real time data monitoring software that is used to display the probe data is not able to import a geolocated boundary delineated in CAD.

From March 20, 2025, through March 26, 2025, there was one recorded temperature increase and one temperature decrease that triggered the notification limits set forth in the LEA's October 4, 2024 letter. This increase and decrease appear to be issues with the thermocouple or data head and are being evaluated as possible anomaly/outlier data.

Additionally, as of February 7, 2025, eight new TMPs (TMP-25, TMP-26, TMP-27, TMP-29, TMP-30, TMP-31, TMP-32, and TMP-34) have been installed and are online. None of these eight new TMPs indicate reaction temperatures occurring outside of the currently delineated data-driven reaction area boundary, and the three TMPs that were able to be drilled to within 20 feet of the liner (TMP-27, TMP-31, and TMP-32) show significantly cooler temperatures at the deepest thermocouple, as expected due to the cooling from the underlying earth. This data further supports the previous conclusions of cooler temperatures near the liner and the liner's integrity being uncompromised by elevated temperatures.

Chiquita provides the following updates:

- TP-04
  - 30-foot thermocouple showed an increase in maximum temperature of 34°F from 168°F to 202°F from March 19th to March 21st, and then a decrease in maximum temperature of 35°F from 202°F to 167°F from March 21st to March 23rd. No other thermocouples of TP-04 showed a change of temperature during this time and we believe the thermocouple is beginning to fail. A team will be on site the week of April 7

to evaluate this thermocouple for accuracy and possible replacement.

- TP-06
    - 15-foot thermocouple indicated 0°F reading beginning on March 16th indicating a possible sensor failure. During the installation of the new temperature probes throughout the week of April 7, field crews will be onsite to evaluate all thermocouples for TP-06 for accuracy and possible replacement. These 0°F readings led to an error in TP-06 3/21/25-3/26/25 data points in the attached PDF. We were unable to show the 140 feet data for TP-06 in the attached PDF and will remedy this issue in next week's submittal.
- TP-15
    - 30-foot thermocouple remained consistent with previous temperature decreases.

We also included an Excel file of the daily maximum temperatures with any high temperatures that triggered the above notification limits highlighted, as requested in the LEA's September 3, 2024 letter.

No other sensors showed major sustained increases or decreases in temperature within the landfill per the LEA's reporting limits and no other sensors showed an anomaly, outlier, data gap, or malfunction, as discussed above. In the past week there was no other recorded temperature increases in the TMP field of greater than 10°F within 7 days or less, greater than 20°F within 14 days or less, or greater than 30°F within 21 days or less.

As stated in Chiquita's response to the LEA's September 3, 2024 and October 4, 2024 adjustments of the temperature notification criteria, we do not believe these notification limits correspond to actual conditions present in a reaction landfill. Temperature is a primary factor in determining the reaction area, but increases in temperature from relatively cool temperatures to normal landfill temperatures are not indicative of reaction area movement. As stated in CalRecycle's response to the soil barrier reaction plan received September 24, 2024, presence of in-situ waste temperatures in excess of 230°F would be criteria indicative of a reaction; increases in shallow temperatures below this CalRecycle-suggested threshold are not indicative of a reaction. Additionally, all data and evidence at the landfill continue to show that reaction conditions are present and there is no "smoldering" event as suggested in CalRecycle's September 25, 2024 response that was used as a basis for the LEA's October 4, 2024 letter.

We will continue to update the LEA weekly on the TMP readings and to notify the LEA by e-mail within 24 hours of any recorded temperature change in the TMP field of greater than 20°F within 24 hours or less.

As requested in the LEA's December 24, 2024 letter, Chiquita is also providing the below update on the installation of the additional TMPs. Chiquita submitted on January 29, 2025 a response to the LEA's December 24, 2024 letter regarding the deletion of TP-33, and received a response from the LEA on March 19, 2024, which Chiquita is reviewing.

As of 3/26/2025 – Status of TMP installation:

Chiquita has been diligently working to install the additional temperature probes as part of the LEA's June 6, 2024 Compliance Order and related LEA correspondence. To accomplish this, Chiquita contracted first with a sonic drill rig which was able to install the first 10 additional temperature probes, 25, 26, 27, 28, 29, 30, 31, 32, 34, and 35. During these drilling events many locations collapsed due to the presence of liquids saturating the waste and preventing drilling to the full planned depth. As such the Sonic Drill Rig was mobilized off-site. To be able to install the remaining four locations (temperature probes 21, 22, 23, and 24), three of which are located inside the most concentrated area of the Elevated Temperature Landfill ("ETLF") conditions, Chiquita contracted with a "mud rotary" style drill rig, in part based on their reputation from other area landfills.

In drilling temperature probe locations with this mud rotary rig, Chiquita achieved good progress in drilling through the reaction zone and post-reacted material, regularly achieving depths below the suspected/anecdotal reaction zone. Mud rotary drilling was successful, for example, in allowing TMP-24 to drill to within 25 feet of the liner system. However, to "set" the casing for the temperature probe, this style of drill rig must remove the drill stem from the hole, a process that involves de-coupling every 20-foot segment of drill stem. After the drill stem is removed from the hole, the rig then pushes the casing down hole, a process that again involves coupling every 20-foot segment of pipe. These processes take time, which in practice resulted in the borehole wall losing integrity and the drilled hole closing back up, which then does not allow the casing to be completed to the depth drilled. In drilling one location alone (TMP-21), Chiquita notes that the borehole closed back up and reaction material flowed back into the borehole for the entire suspected reaction zone length three separate times. For this reason, the temperature probe was only able to be set at 110 feet below ground surface, which is just above the anecdotal reaction zone.

As a result of the foregoing and the LEA's March 19, 2024 correspondence, Chiquita is evaluating the installation of the remaining two temperature probes (TMP-22 and TMP-23).

The thermocouple sensors for TMP 21 and 24, along with TMP 28 and TMP 35, have been ordered with installation anticipated by April 4, 2025. The following is an anticipated completion date chart for receiving and installing temperature sensor equipment onsite.

Task	Corresponding Temperature Probe	Estimated Completion Date
Receipt of temperature sensors and remote telemetry heads for first 8 TMPs	25, 26, 27, 29, 30, 31, 32, and 34	Completed (1/24/2025)
Installation of temperature sensors and telemetry heads for first 8 TMPs	25, 26, 27, 29, 30, 31, 32, and 34	Completed (2/7/2025)
Estimated receipt of temperature sensors and remote telemetry heads for remaining 4 TMPs	21, 24, 28, and 35	Completed 3/19/2025

Installation of temperature sensors and telemetry heads for remaining 4 TMPs	21, 24, 28, and 35	4/11/2025

Steve Cassulo
District Manager
661-371-9214

From: Steve Cassulo <Steven.Cassulo@WasteConnections.com>
Sent: Thursday, March 20, 2025 6:03 PM
To: Nicole Ward <nicole.ward@wasteconnections.com>; Amanda Froman <Amanda.Froman@WasteConnections.com>; Ken Habaradas <khabaradas@ph.lacounty.gov>; John Perkey <John.Perkey@WasteConnections.com>
Cc: RRagland@ph.lacounty.gov; LFrias@ph.lacounty.gov; NQuick@ph.lacounty.gov; sota@ph.lacounty.gov; KGork@ph.lacounty.gov; emorofuji@ph.lacounty.gov; rjensen@fwhb.com; BMcphillips@counsel.lacounty.gov; ETHOMP@dpw.lacounty.gov; agarcia@planning.lacounty.gov; Wes.Mindermann@CalRecycle.ca.gov; Jeff.Lindberg@arb.ca.gov; Jcheng@aqmd.gov; lisrael@aqmd.gov; Holybee.Tyler@epa.gov; Relon.MarkAnthony@epa.gov; Friedli.Laura@epa.gov; Todd.Thalhamer@Calrecycle.ca.gov; Casas, Enrique@Waterboards <Enrique.Casas@waterboards.ca.gov>; Phillip Chen <pchen@planning.lacounty.gov> <PChen@planning.lacounty.gov>; sjareb@planning.lacounty.gov
Subject: RE: Chiquita Canyon Landfill – TMP Temperature Submittal

[EXTERNAL SENDER: Use caution with links/attachments]

Dear Mr. Habaradas,

In accordance with the LEA's June 6, 2024 Compliance Order and related LEA correspondence, Chiquita Canyon, LLC (Chiquita) submits the attached weekly temperature graphs of all temperature monitoring probes (TMPs) with weekly maximum trends plotted over six weeks from February 6, 2025, through March 19, 2025, with a map of the maximum temperatures recorded in the past week and the below narrative on recorded temperature data. We included a separate map demonstrating the locations of the 28 temperature monitoring probes in relation to the reaction area boundary because the real time data monitoring software that is used to display the probe data is not able to import a geolocated boundary delineated in CAD.

From March 13, 2025, through March 19, 2025, there were no recorded temperature increases and one temperature decrease that triggered the notification limits set forth in the LEA's October 4, 2024 letter.

Additionally, as of February 7, 2025, eight new TMPs (TMP-25, TMP-26, TMP-27, TMP-29, TMP-30,

SolidWasteBoreholeMaximum TemperatureProfilesOver6Weeks

for 2/13/2025 to 3/26/2025

From March 20, 2025, through March 26, 2025, there was one recorded temperature increase and one temperature decrease that triggered the notification limits set forth in the LEA's October 4, 2024 letter. This increase and decrease appear to be issues with the thermocouple or data head and are being evaluated as possible anomaly/outlier data.

Additionally, as of February 7, 2025, eight new TMPs (TMP-25, TMP-26, TMP-27, TMP-29, TMP-30, TMP-31, TMP-32, and TMP-34) have been installed and are online. None of these eight new TMPs indicate reaction temperatures occurring outside of the currently delineated data-driven reaction area boundary, and the three TMPs that were able to be drilled to within 20 feet of the liner (TMP-27, TMP-31, and TMP-32) show significantly cooler temperatures at the deepest thermocouple, as expected due to the cooling from the underlying earth. This data further supports the previous conclusions of cooler temperatures near the liner and the liner's integrity being uncompromised by elevated temperatures.

Chiquita provides the following updates:

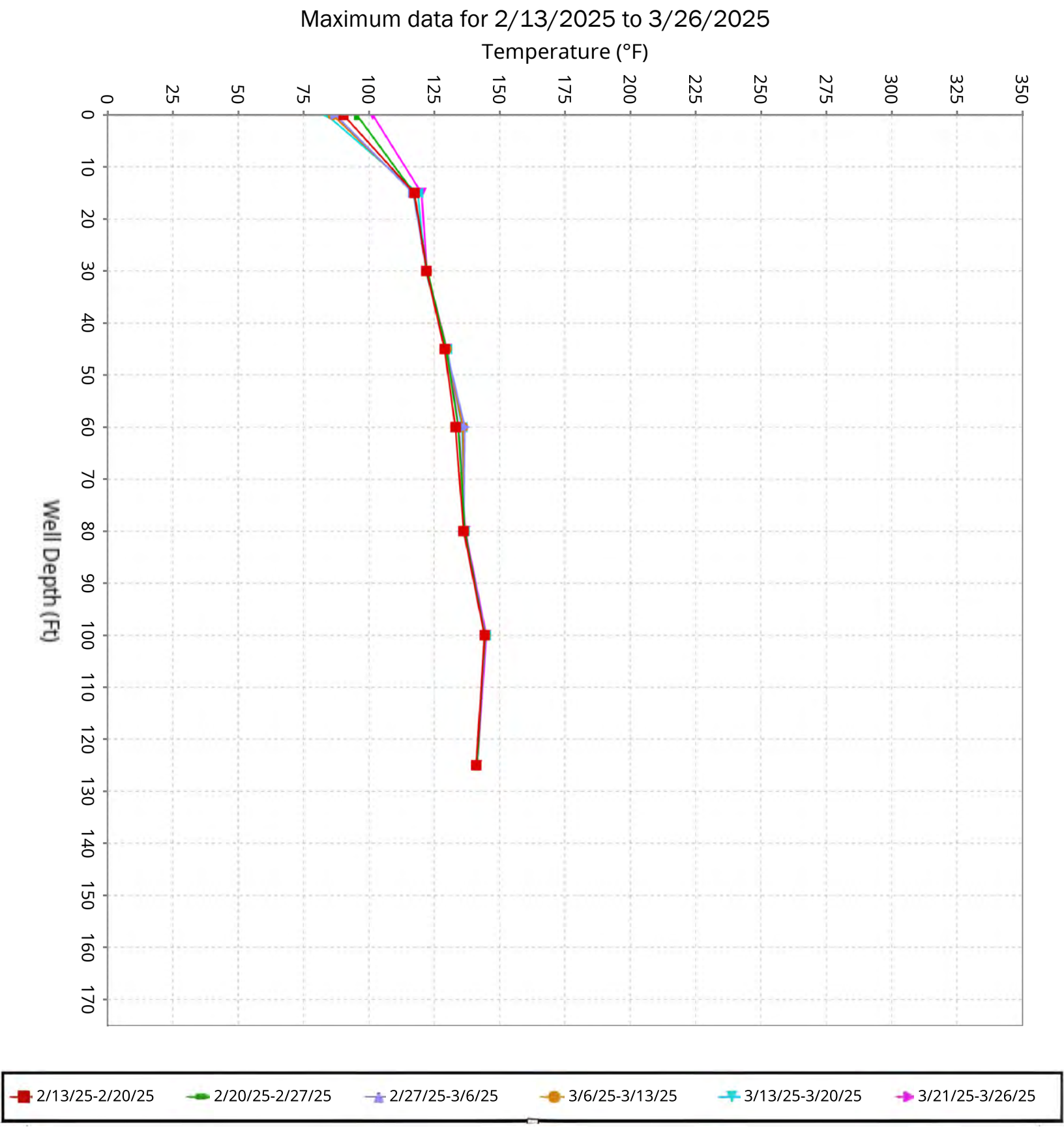
- TP-04
  - 30-foot thermocouple showed an increase in maximum temperature of 34°F from 168°F to 202°F from March 19th to March 21st, and then a decrease in maximum temperature of 35°F from 202°F to 167°F from March 21st to March 23rd. No other thermocouples of TP-04 showed a change of temperature during this time and we believe the thermocouple is beginning to fail. A team will be on site the week of April 7 to evaluate this thermocouple for accuracy and possible replacement.
- TP-06
  - 15-foot thermocouple indicated 0°F reading beginning on March 16th indicating a possible sensor failure. During the installation of the new temperature probes throughout the week of April 7, field crews will be onsite to evaluate all thermocouples for TP-06 for accuracy and possible replacement. These 0°F readings led to an error in TP-06 3/21/25-3/26/25 data points in the attached PDF. We were unable to show the 140 feet data for TP-06 in the attached PDF and will remedy this issue in next week's submittal.
- TP-15
  - 30-foot thermocouple remained consistent with previous temperature decreases.

SCS ENGINEERS

07224053.00 | March 27, 2025

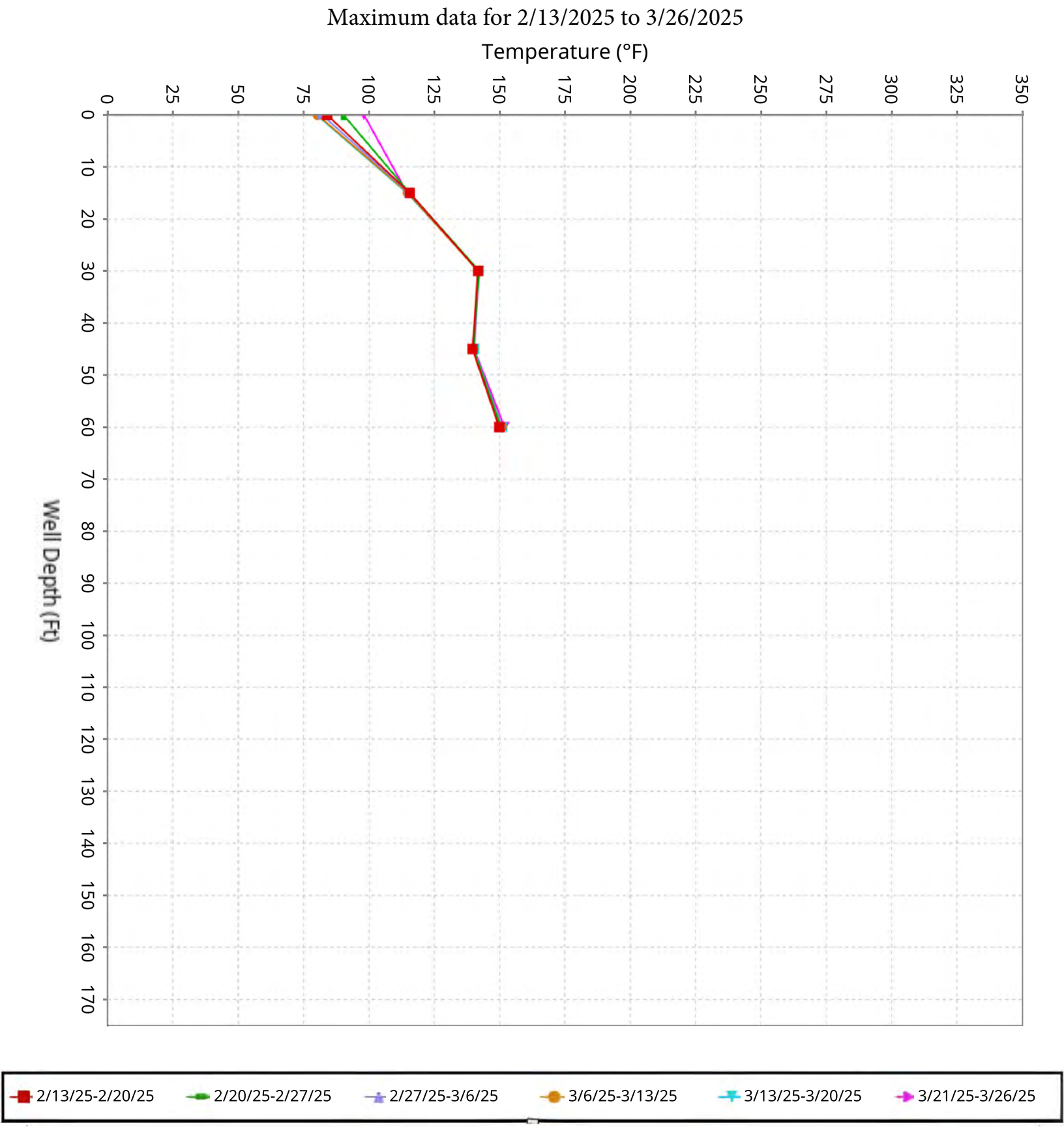
274 Granite Run Drive
Lancaster, PA 17601
717-550-6330

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-1



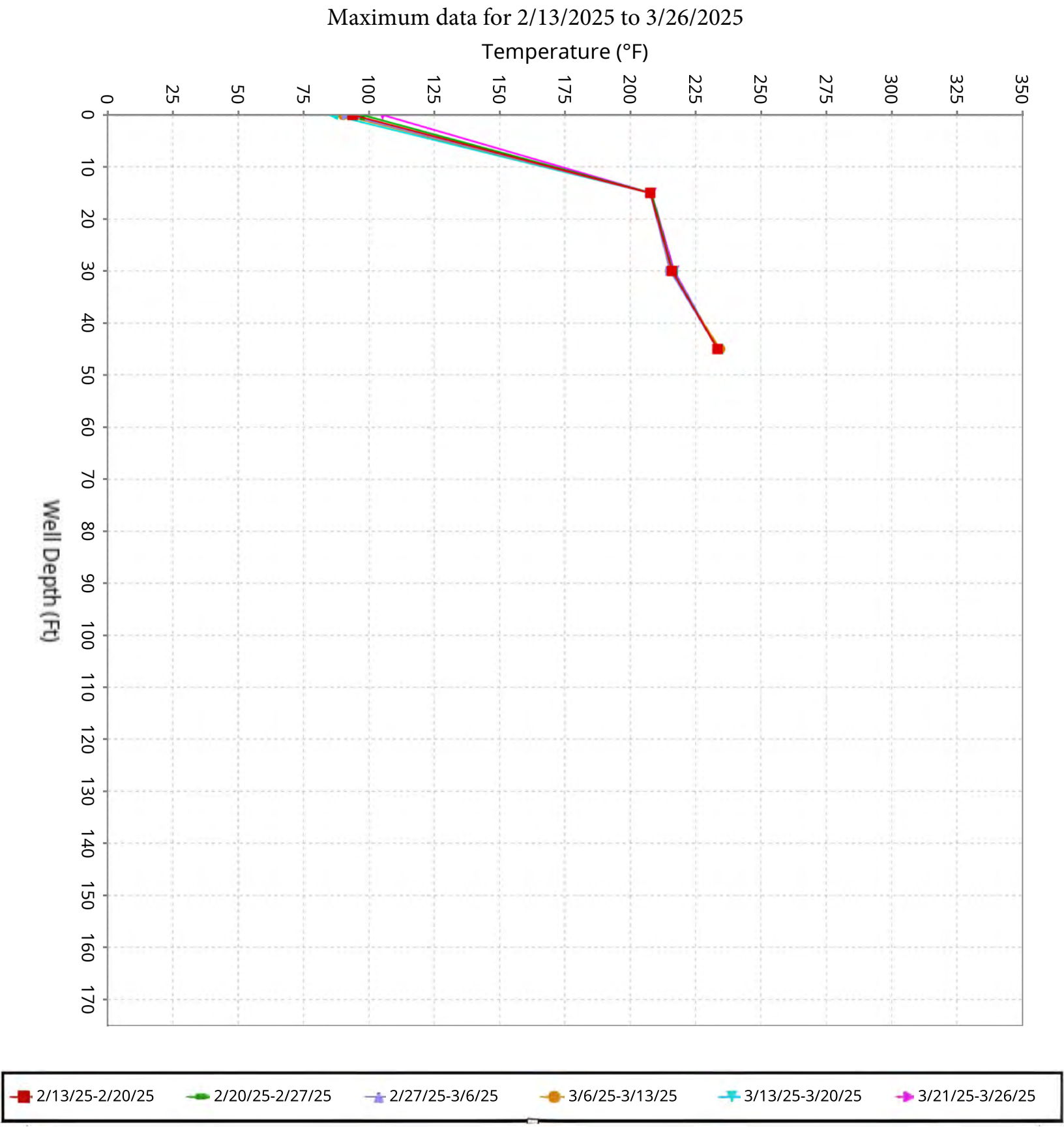
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-2



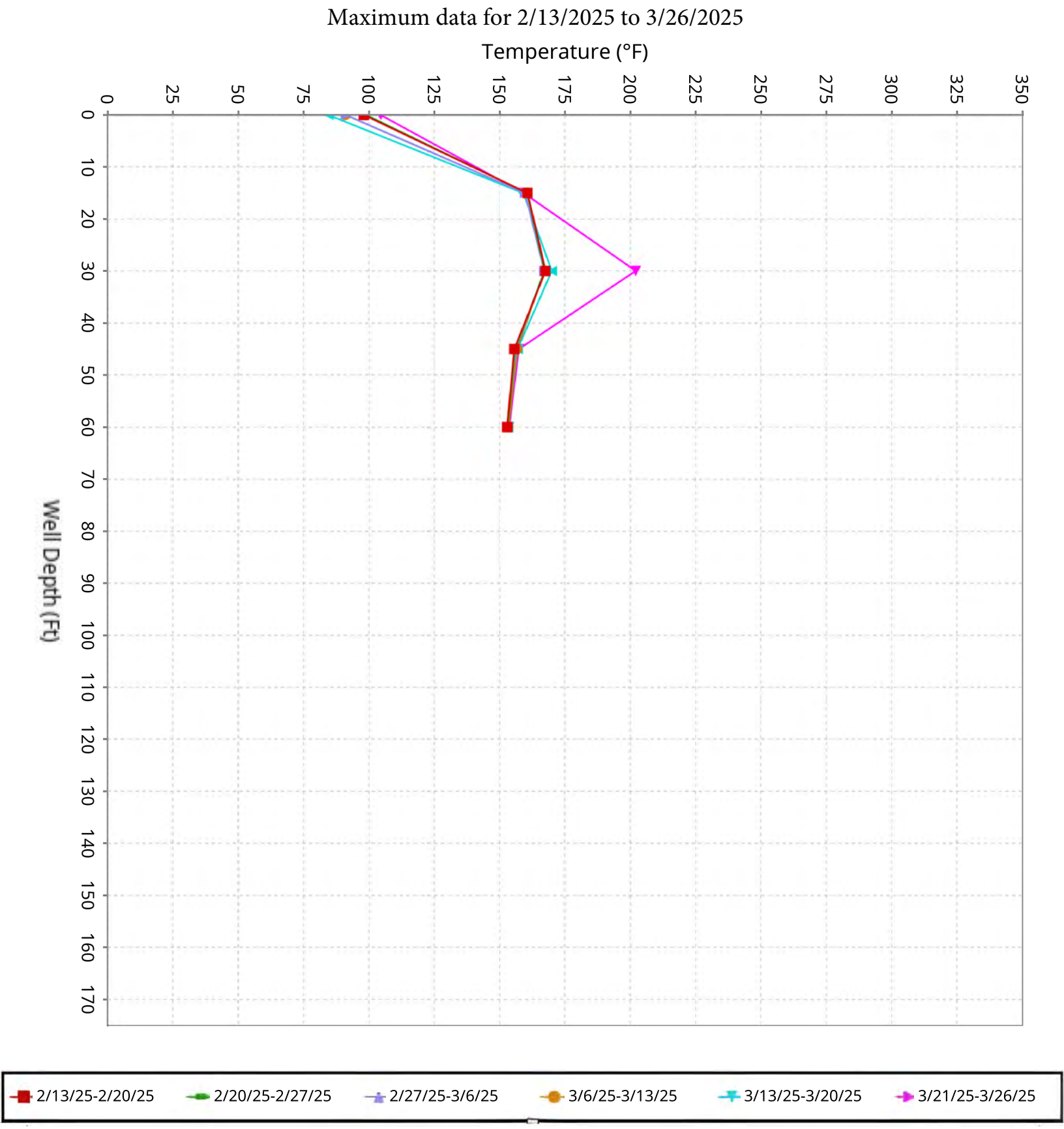
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-3



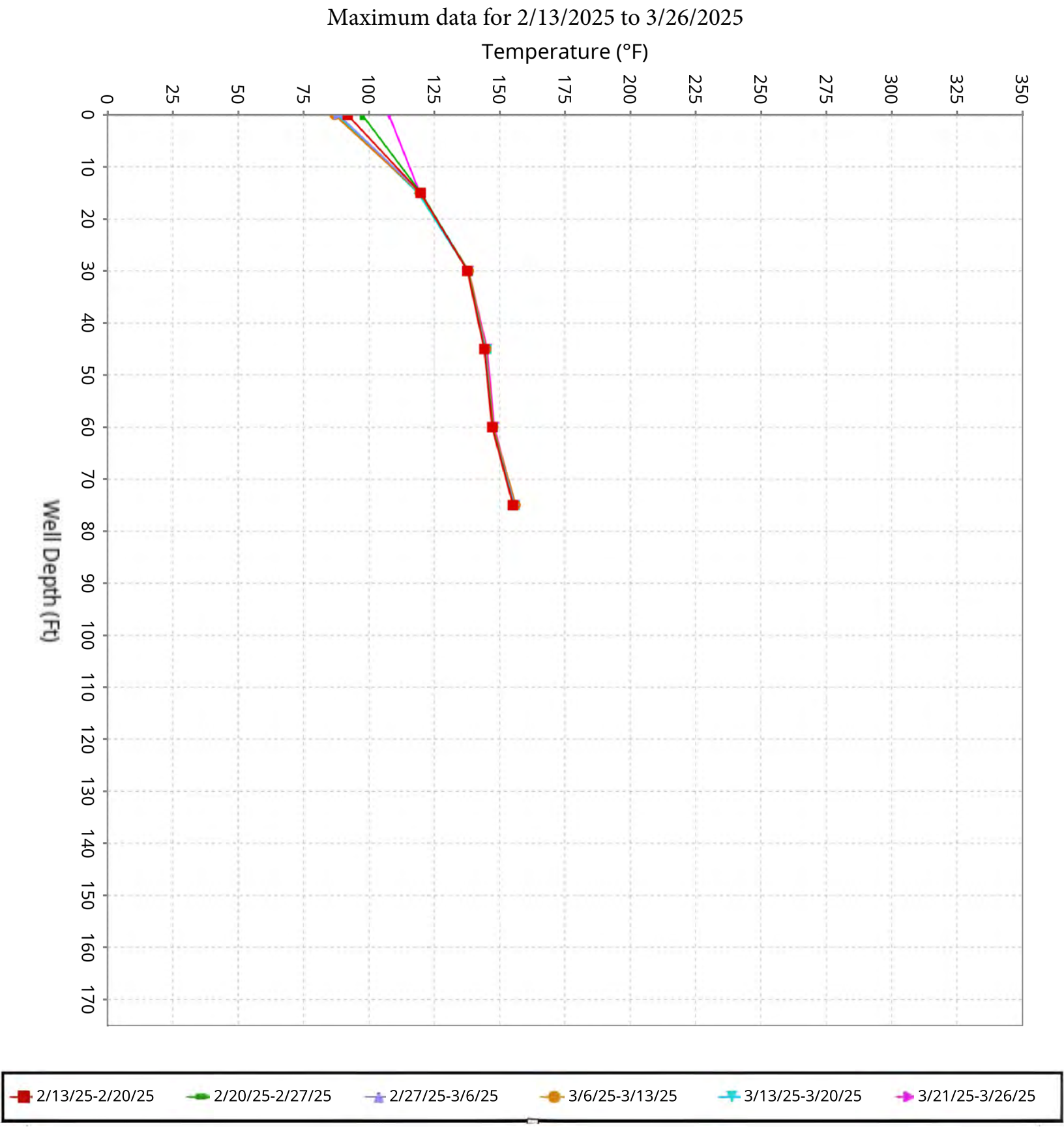
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-4



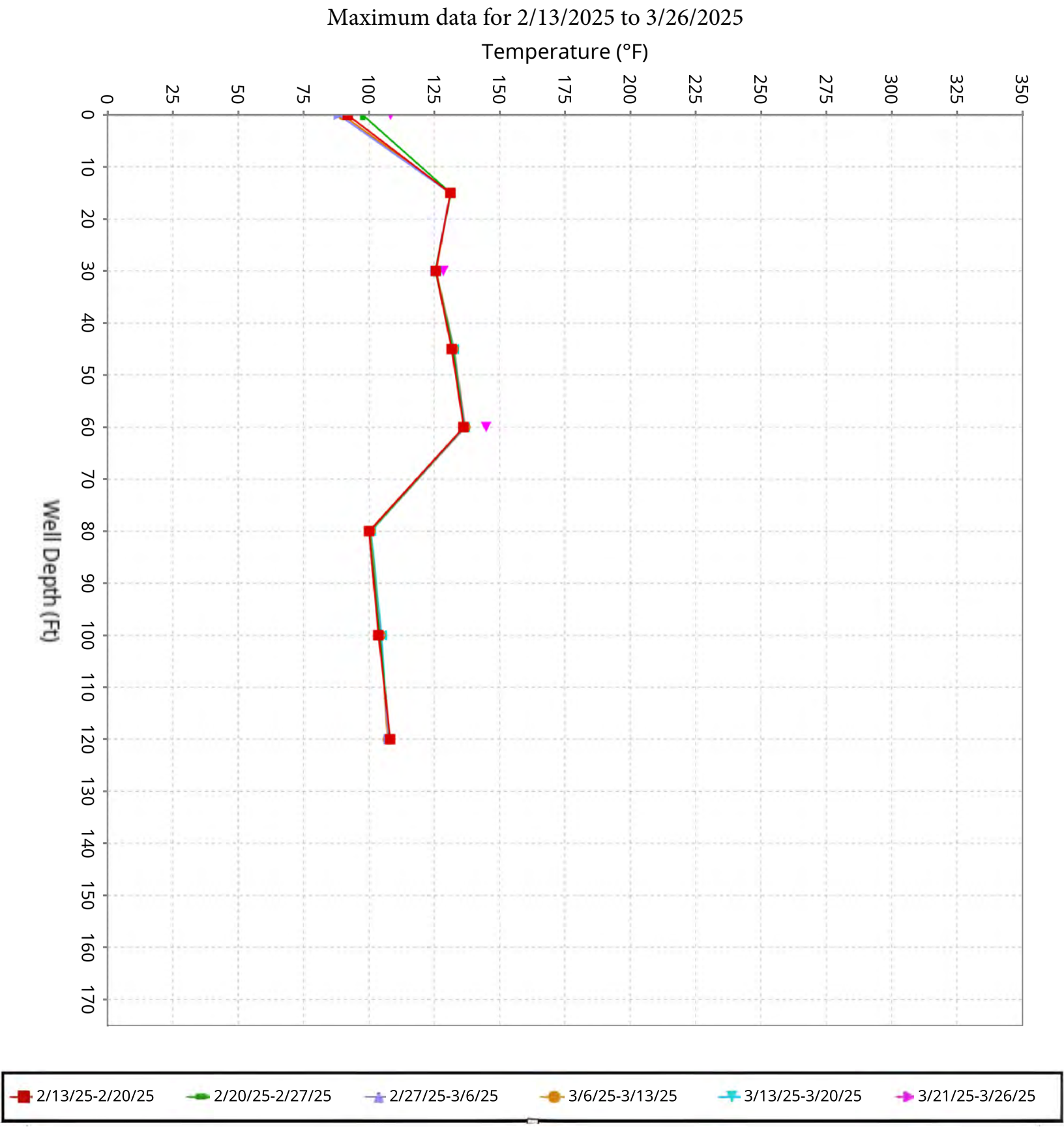
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-5



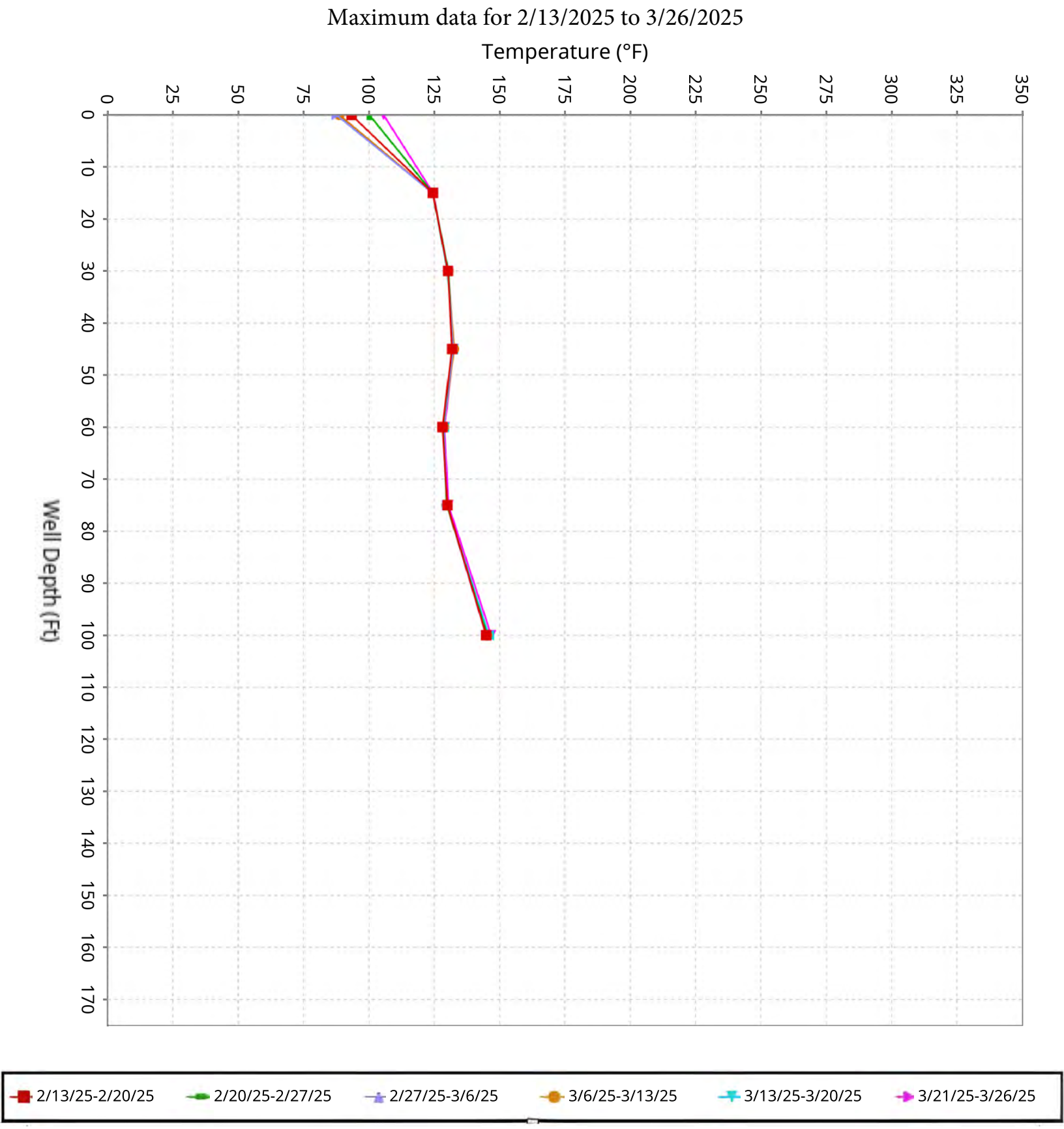
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-6



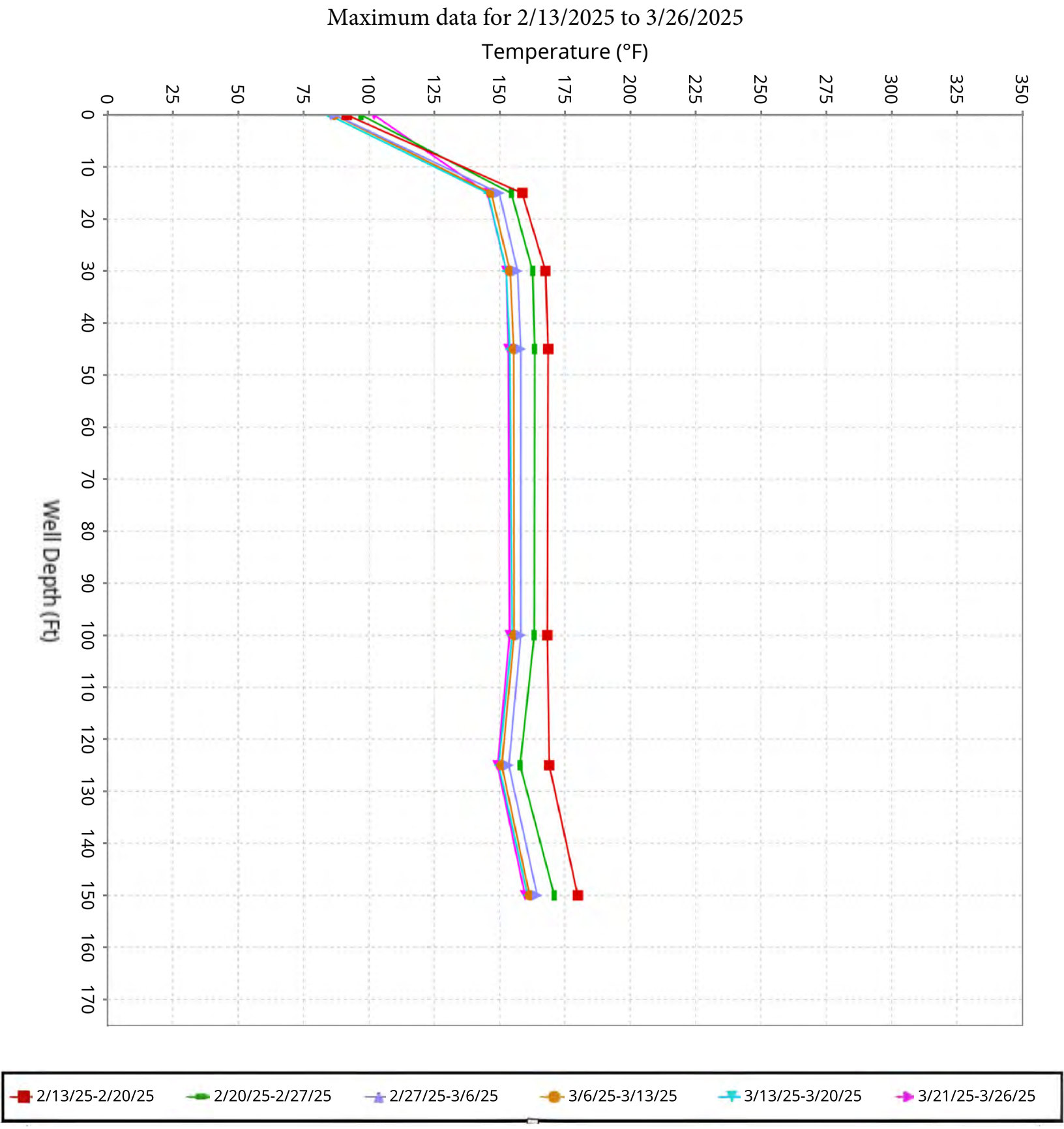
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-7



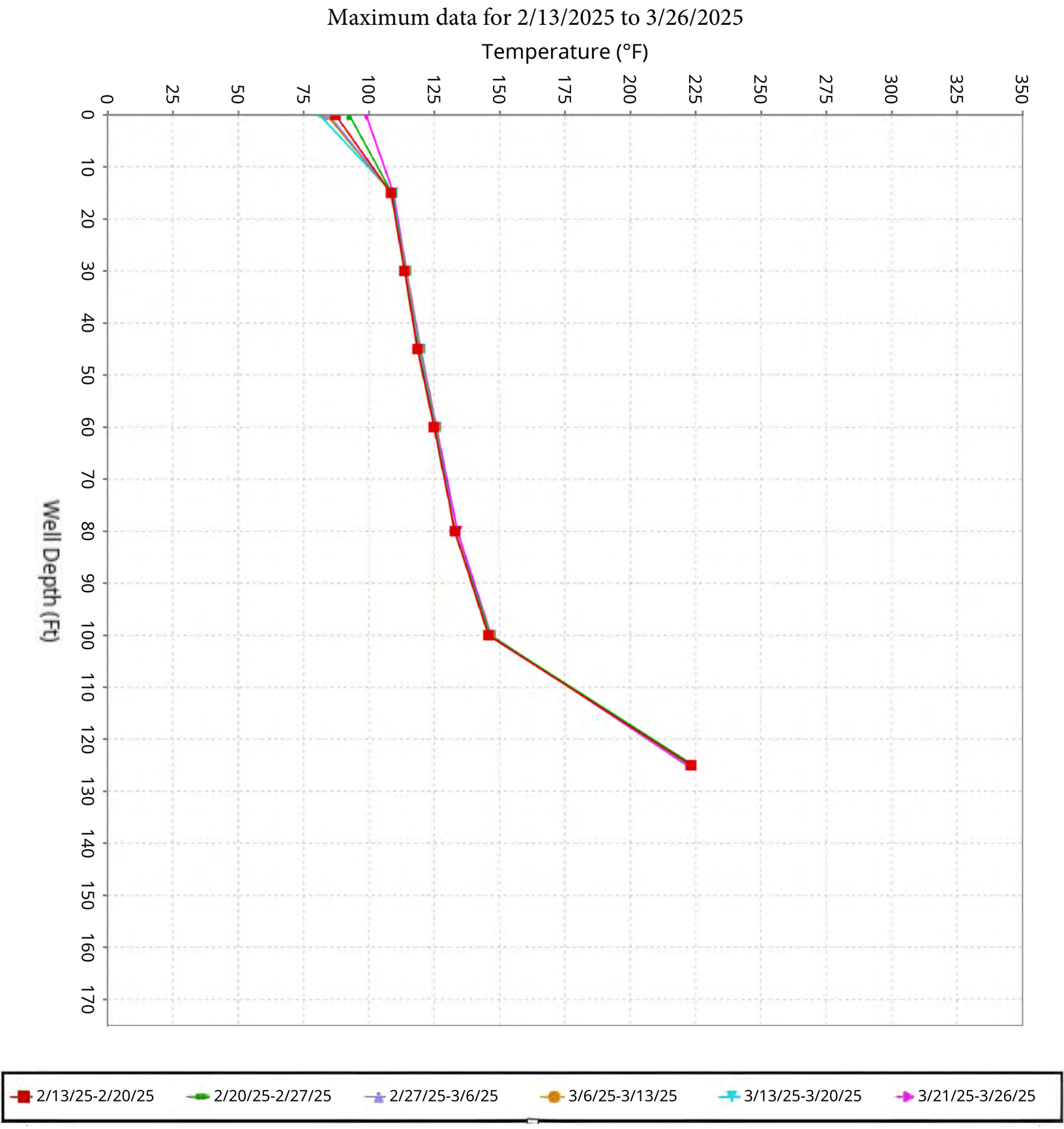
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-8



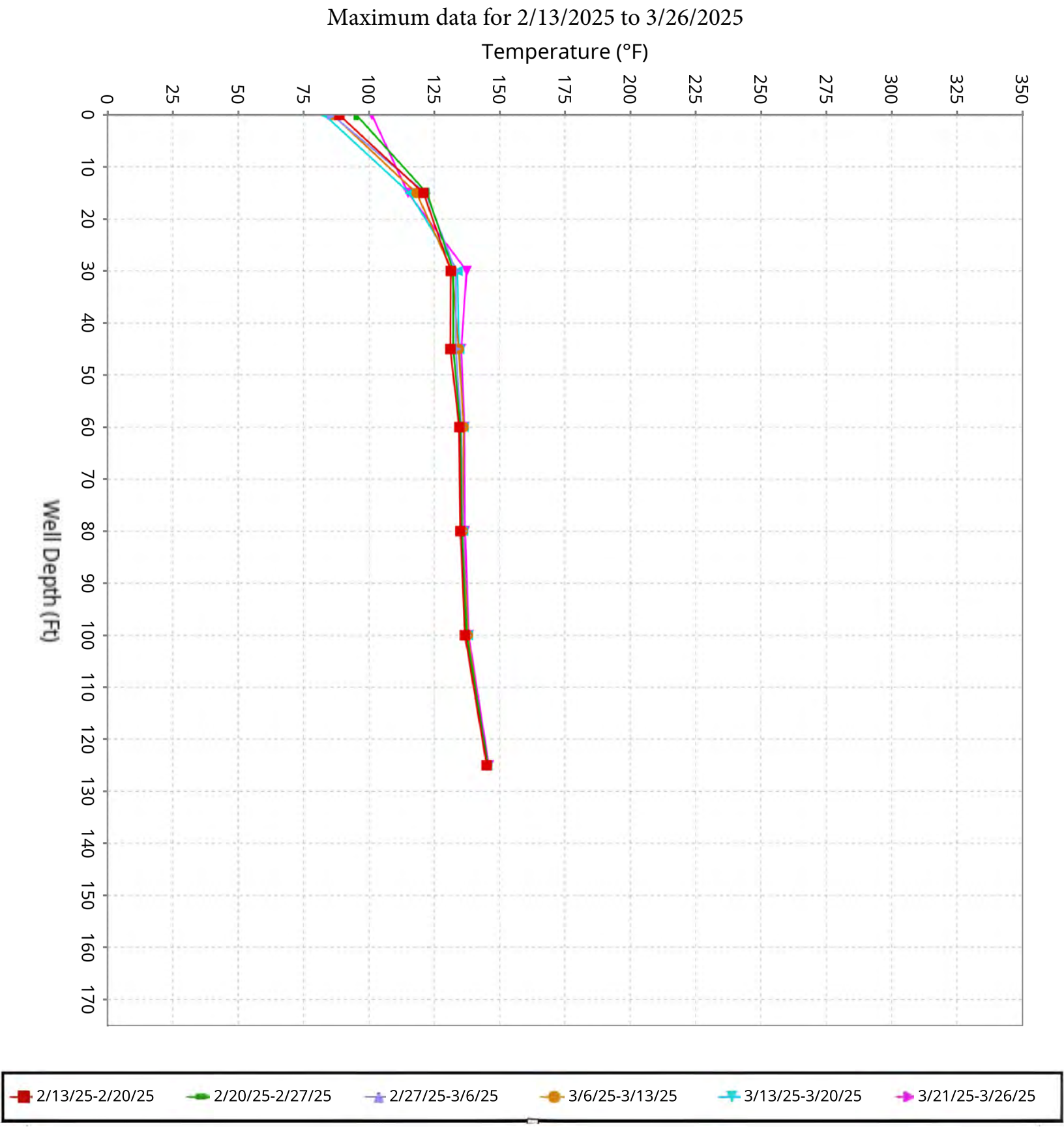
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-9



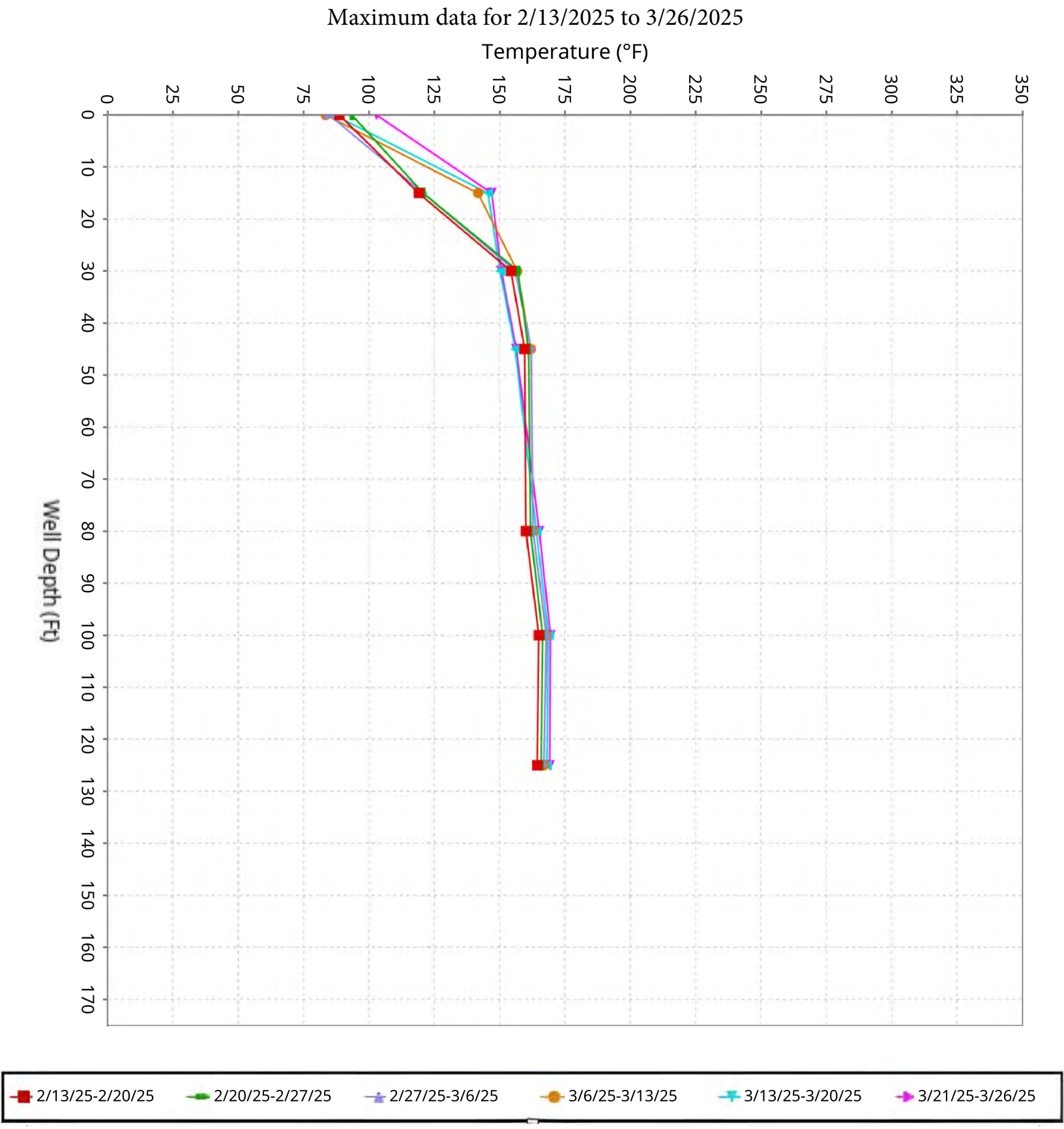
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-10



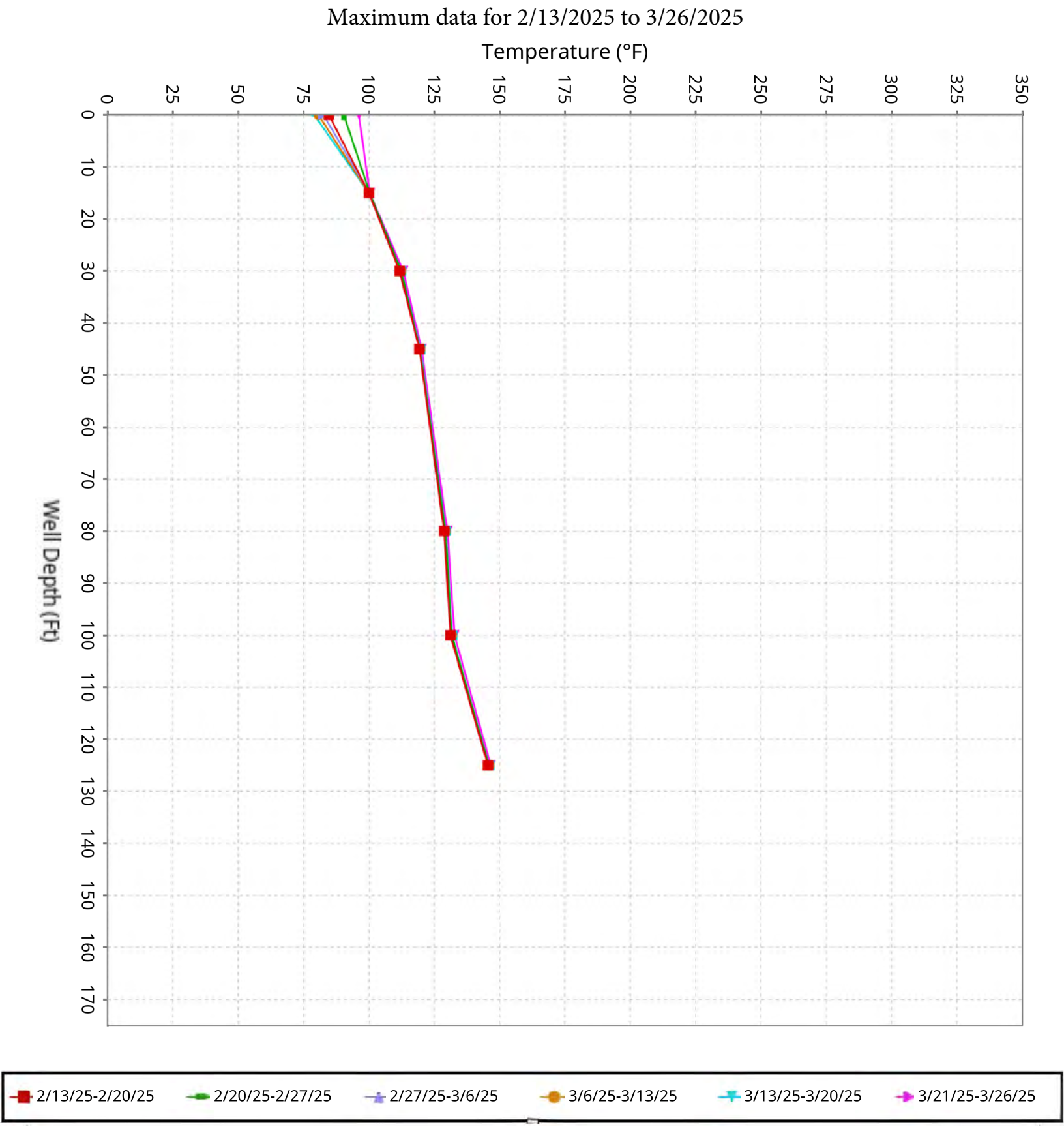
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-11



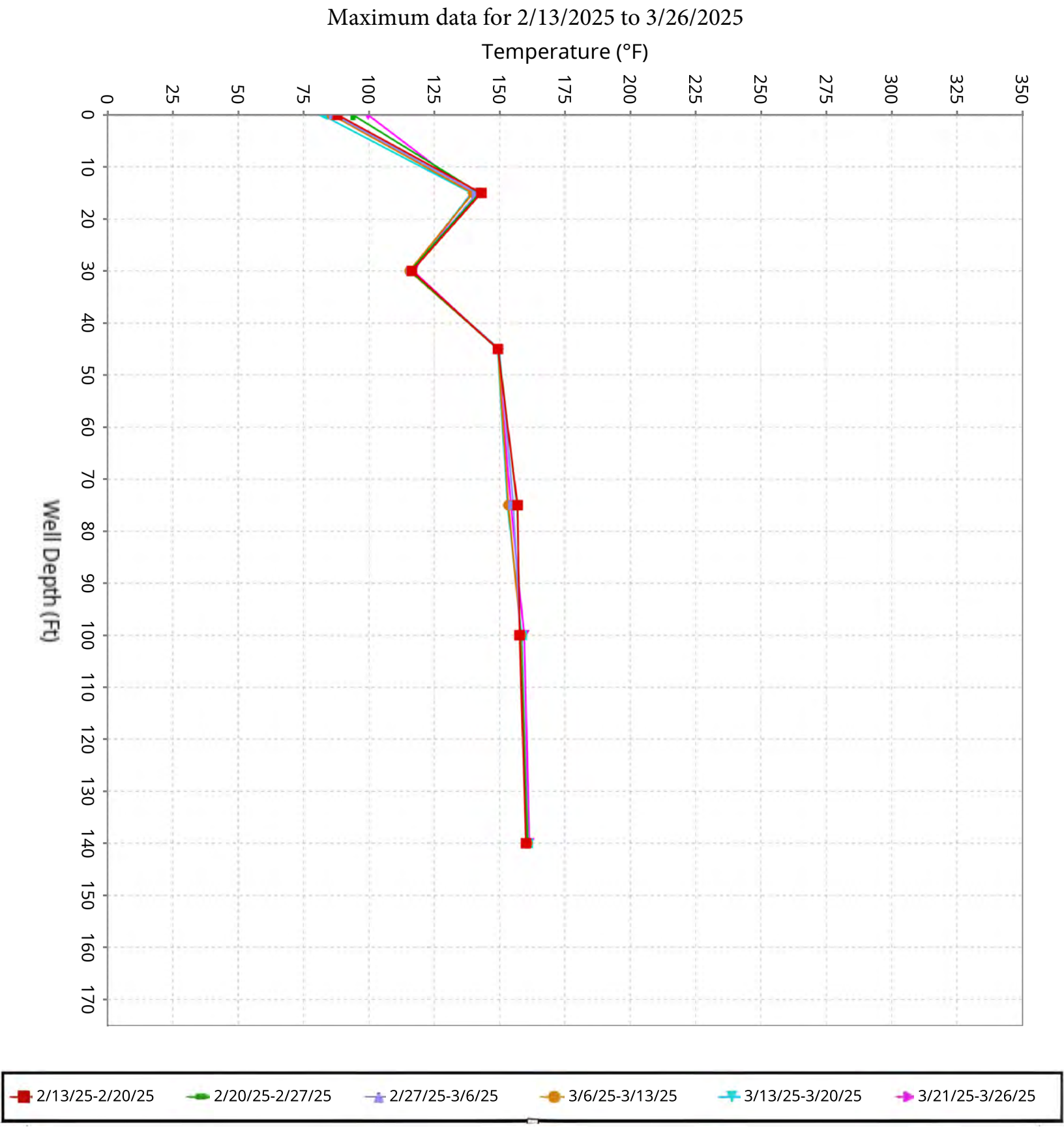
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-12



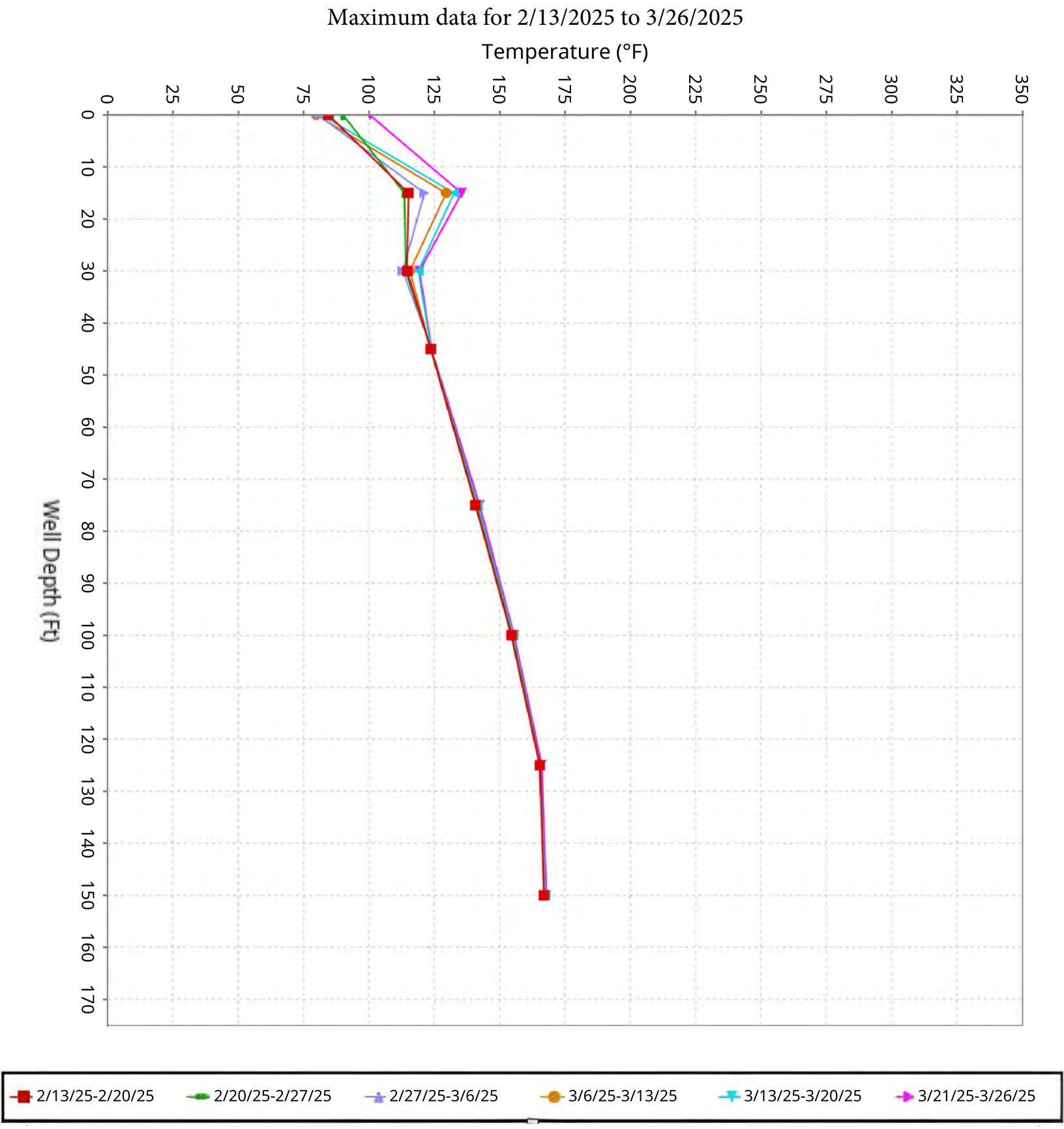
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-13



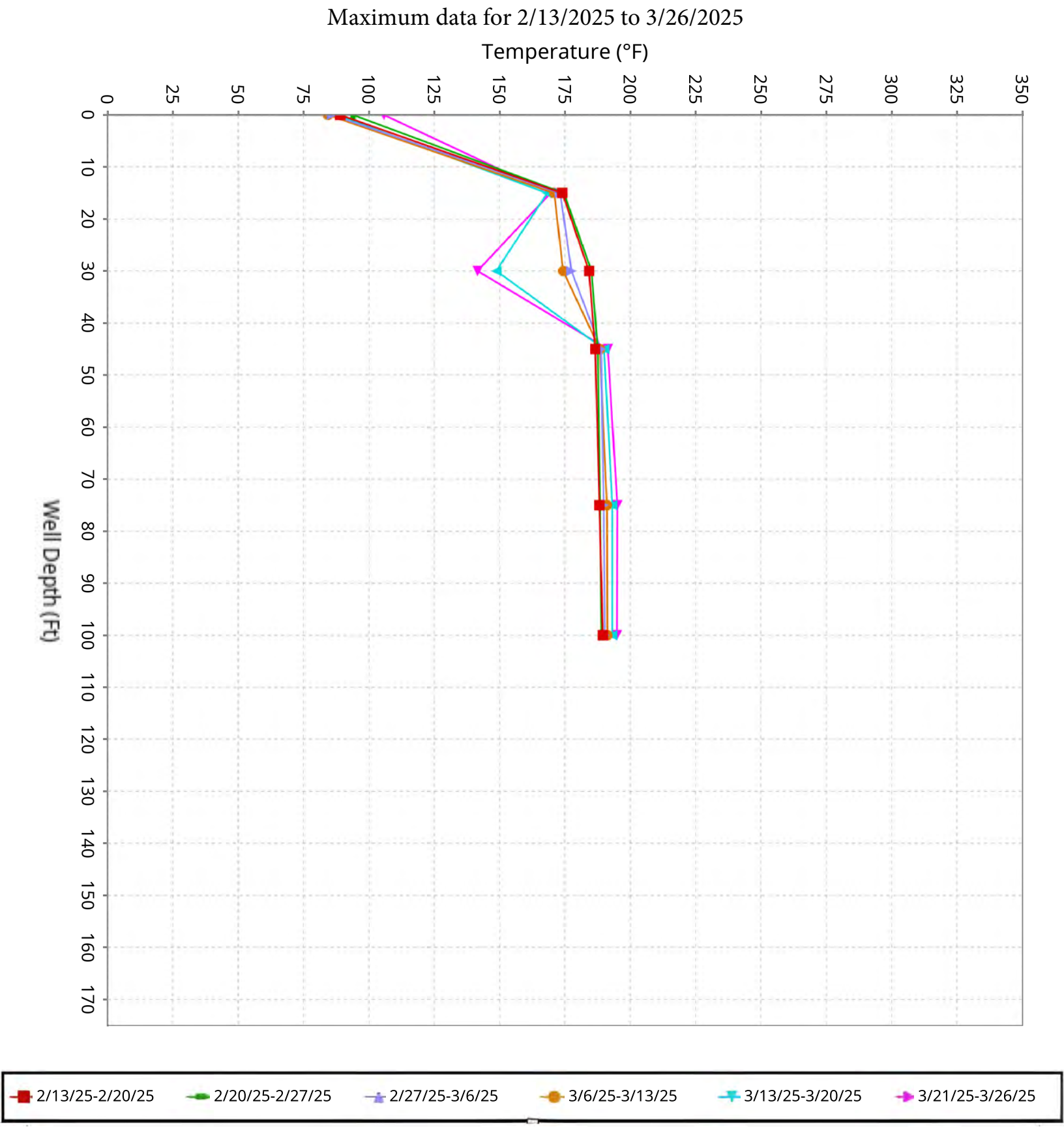
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-14



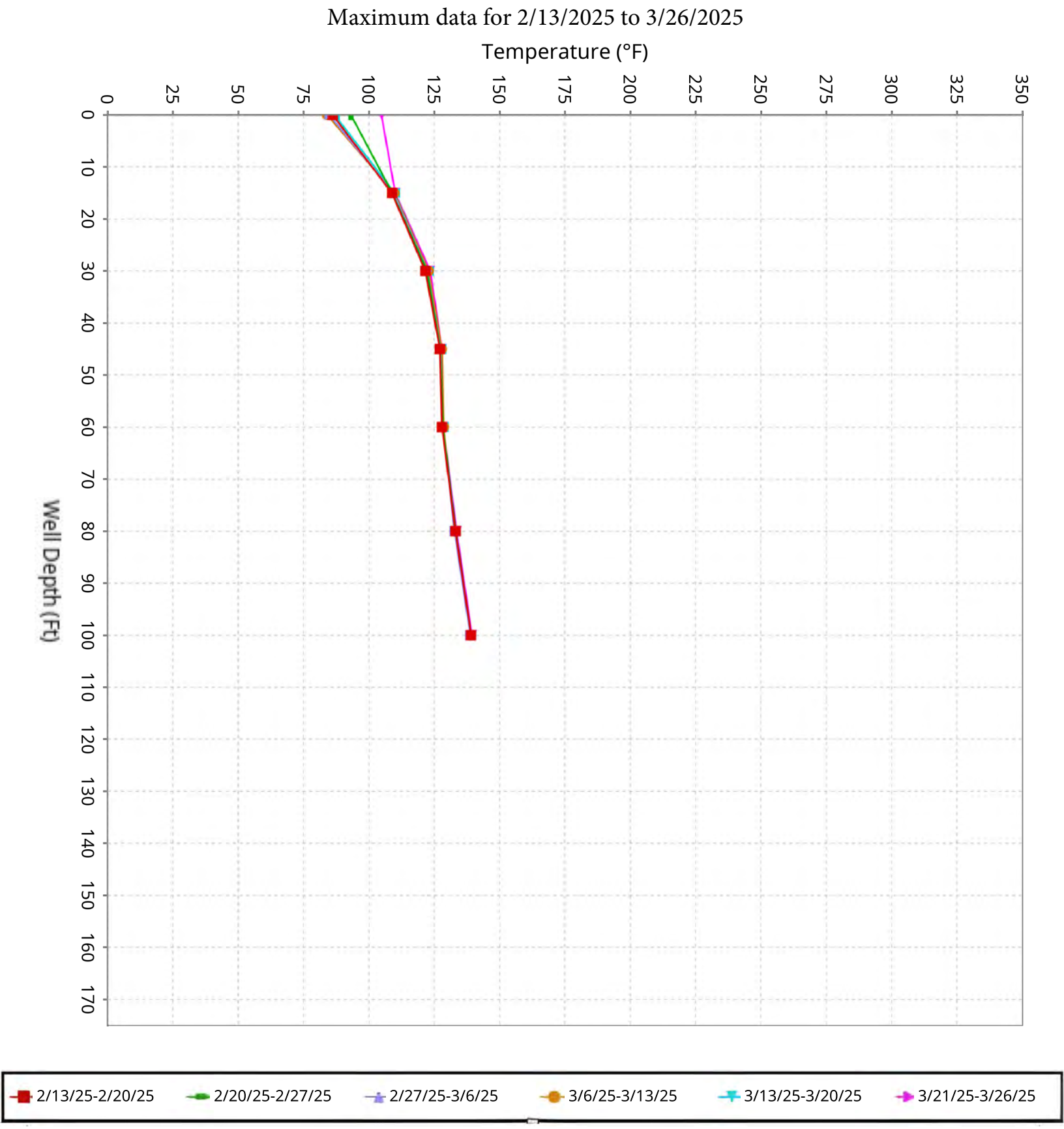
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-15



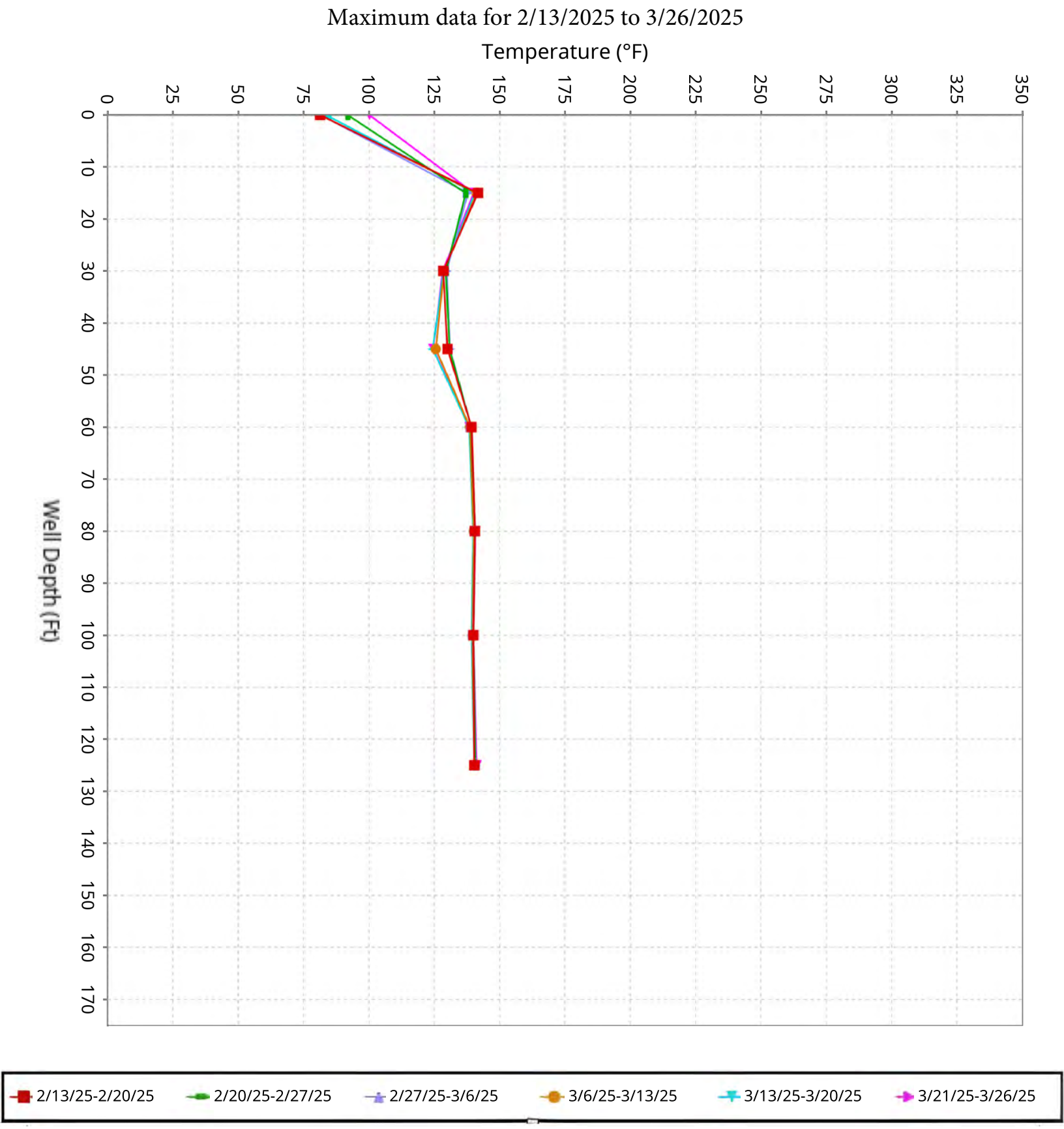
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-16



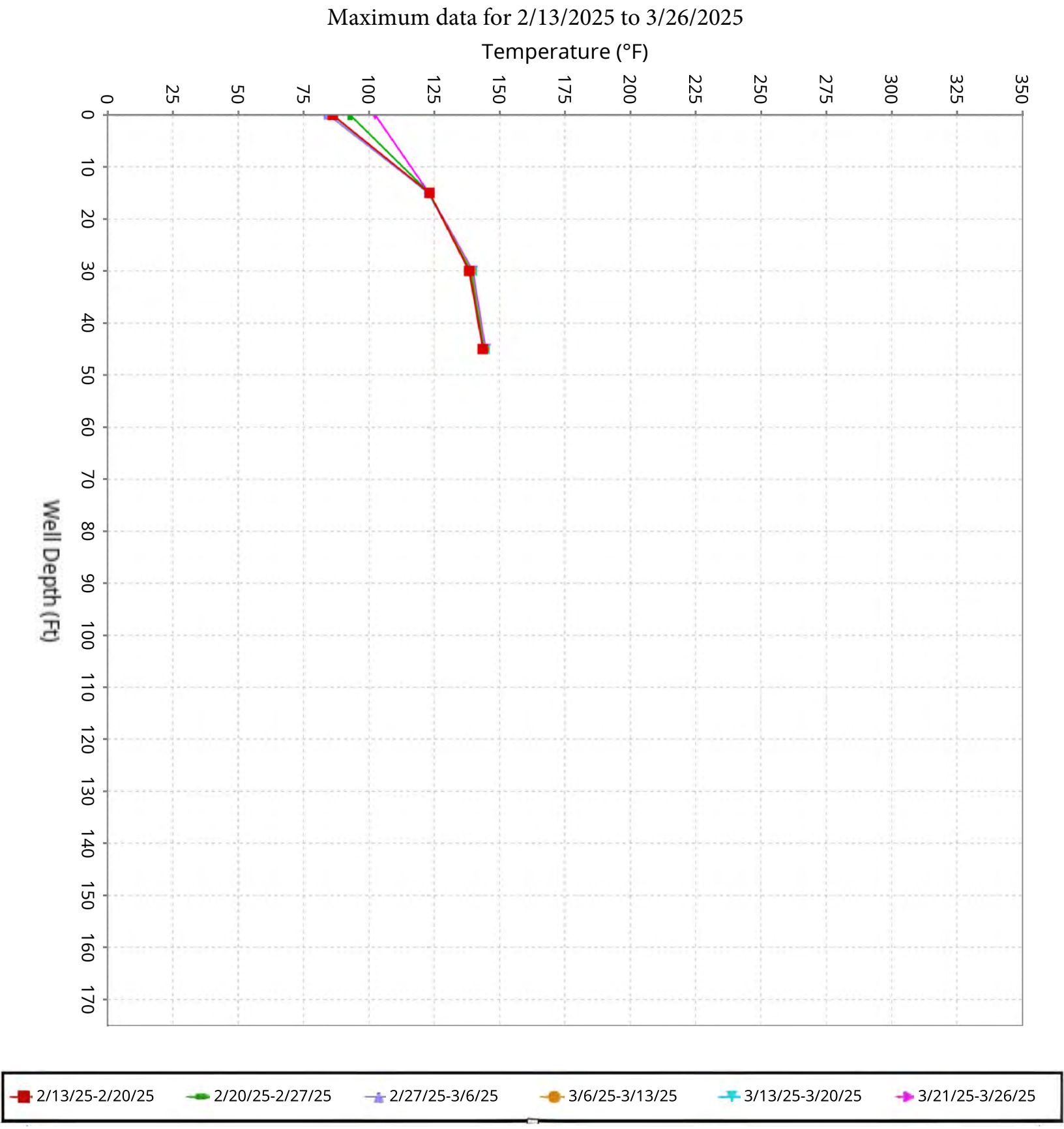
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-17



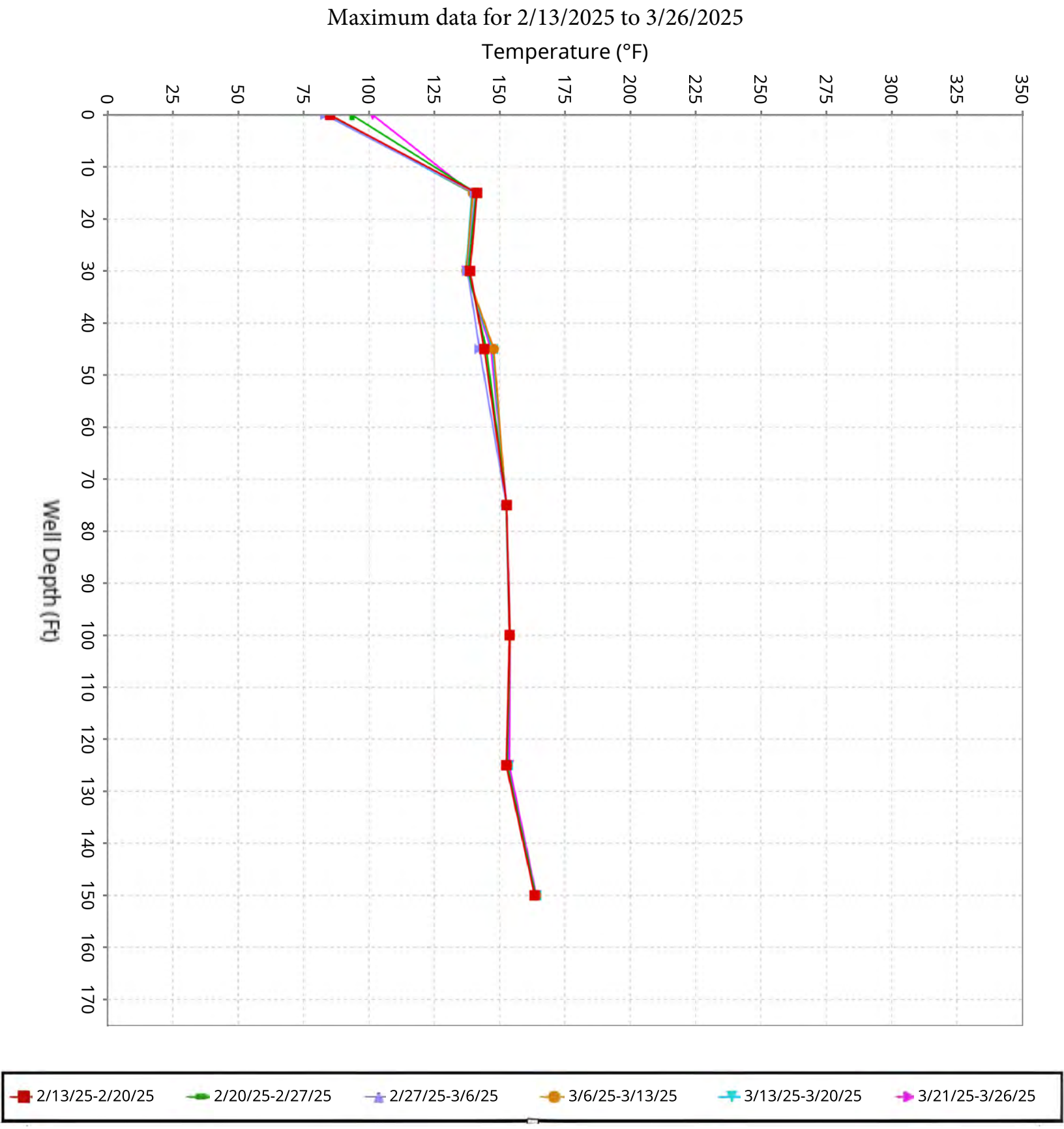
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-18



SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-19



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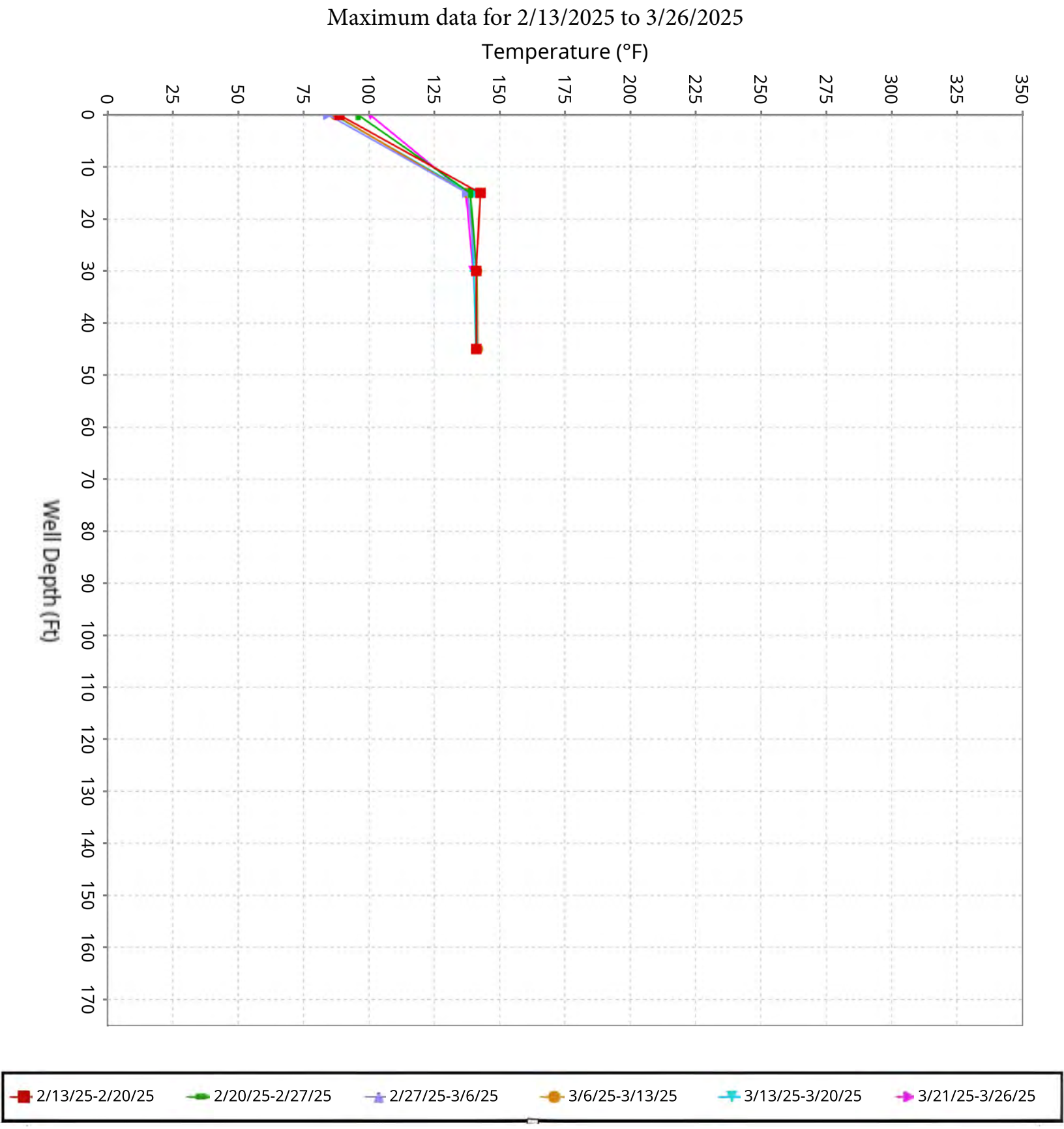
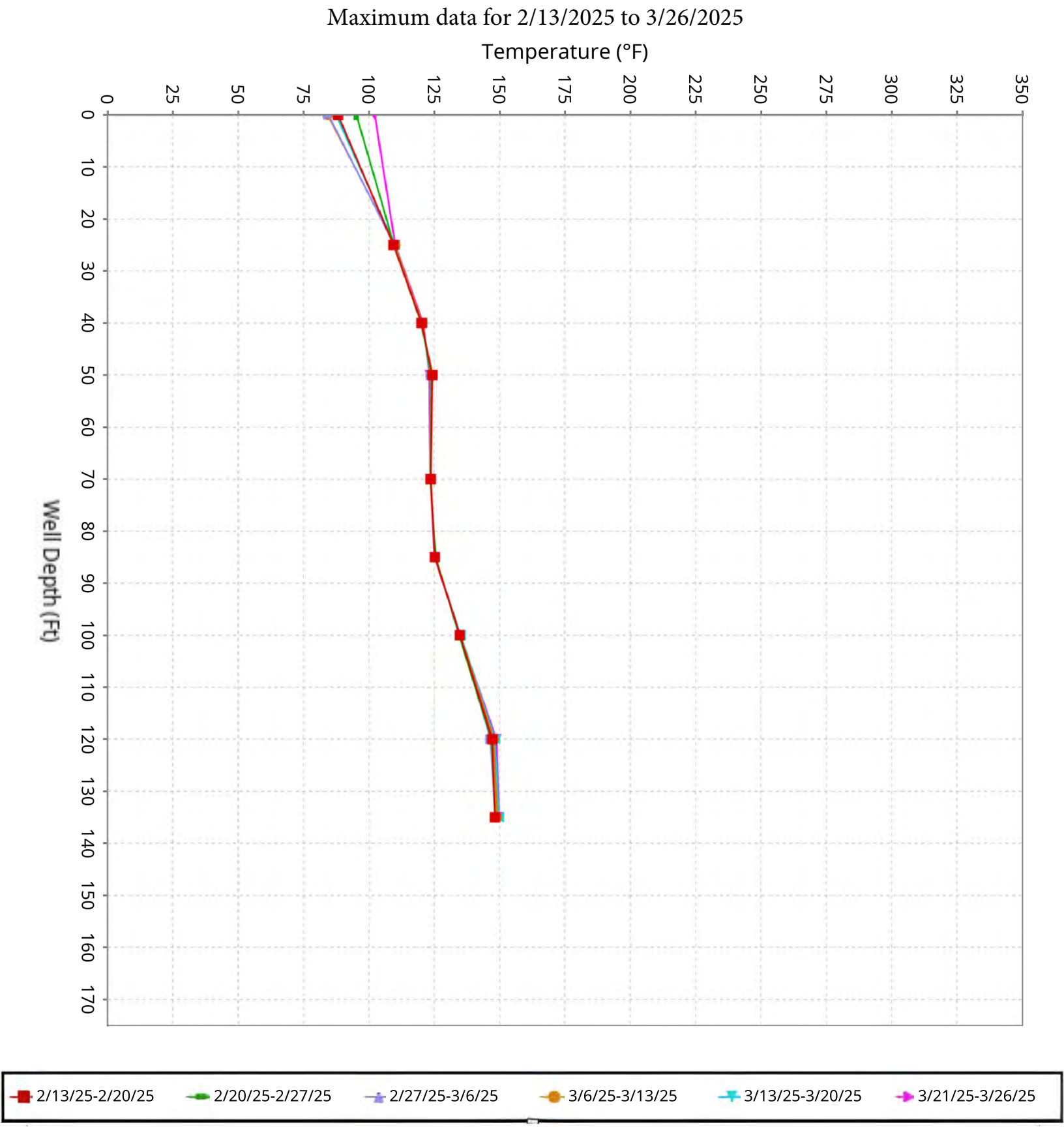
Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-20



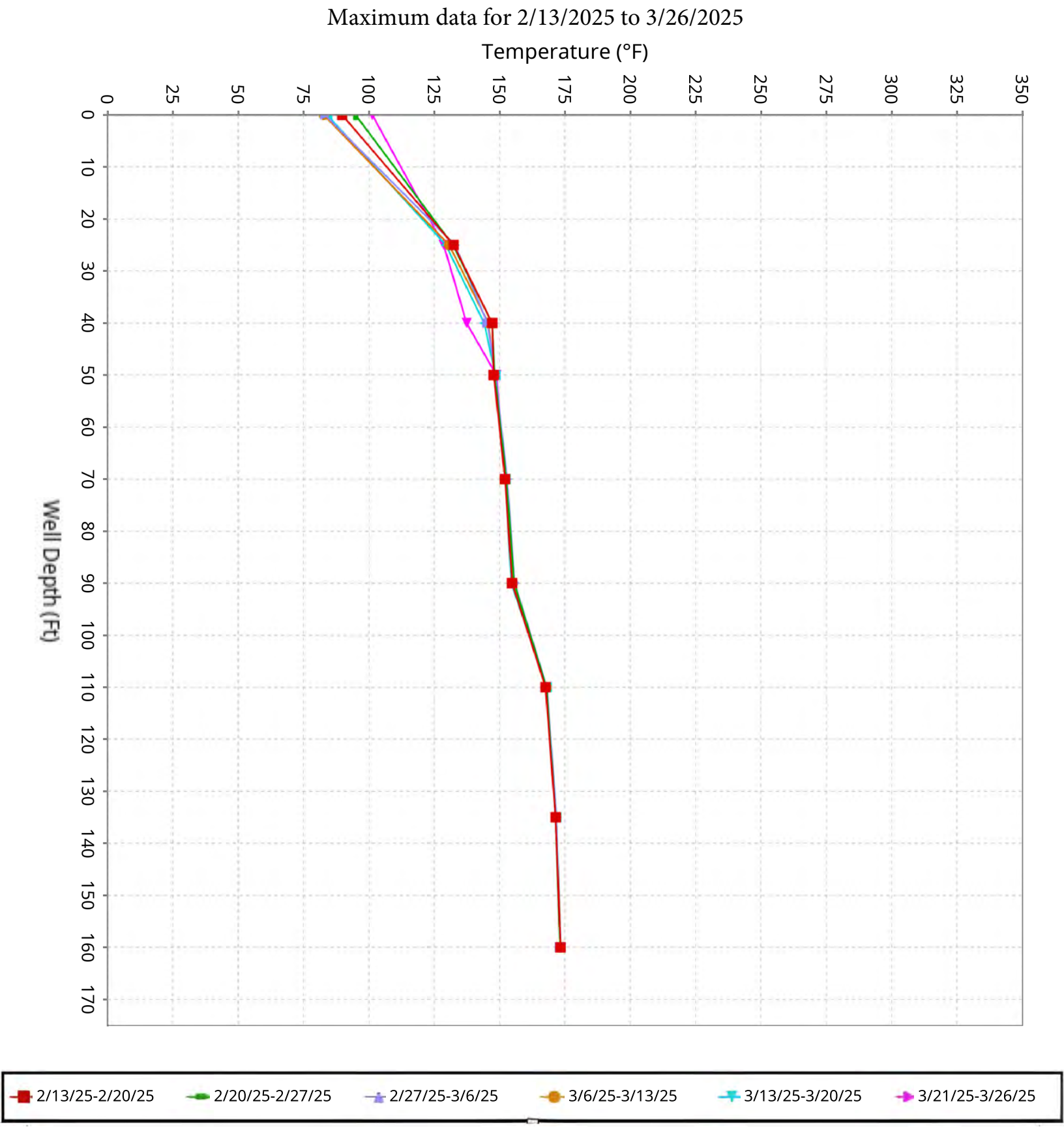
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-25



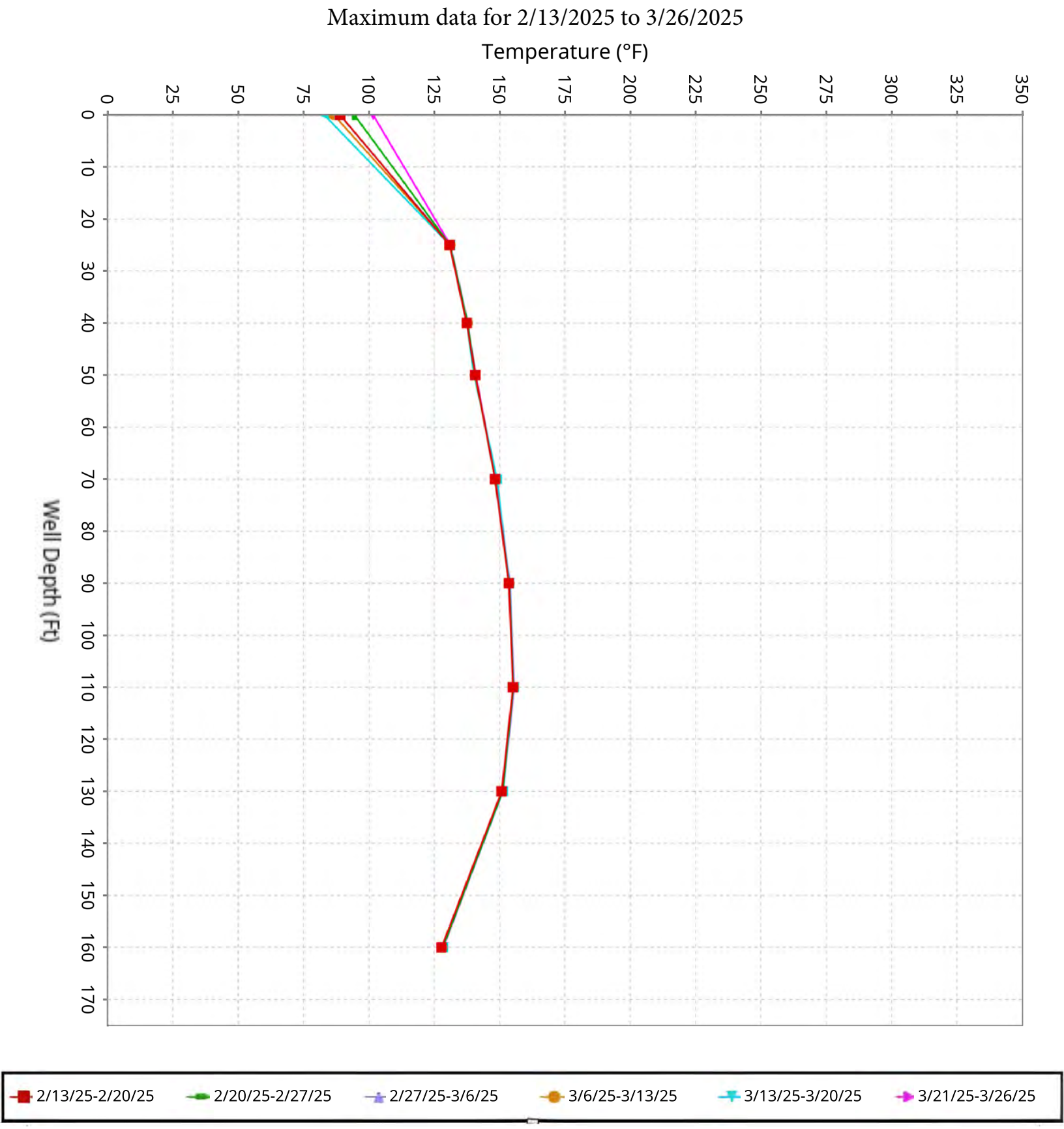
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-26



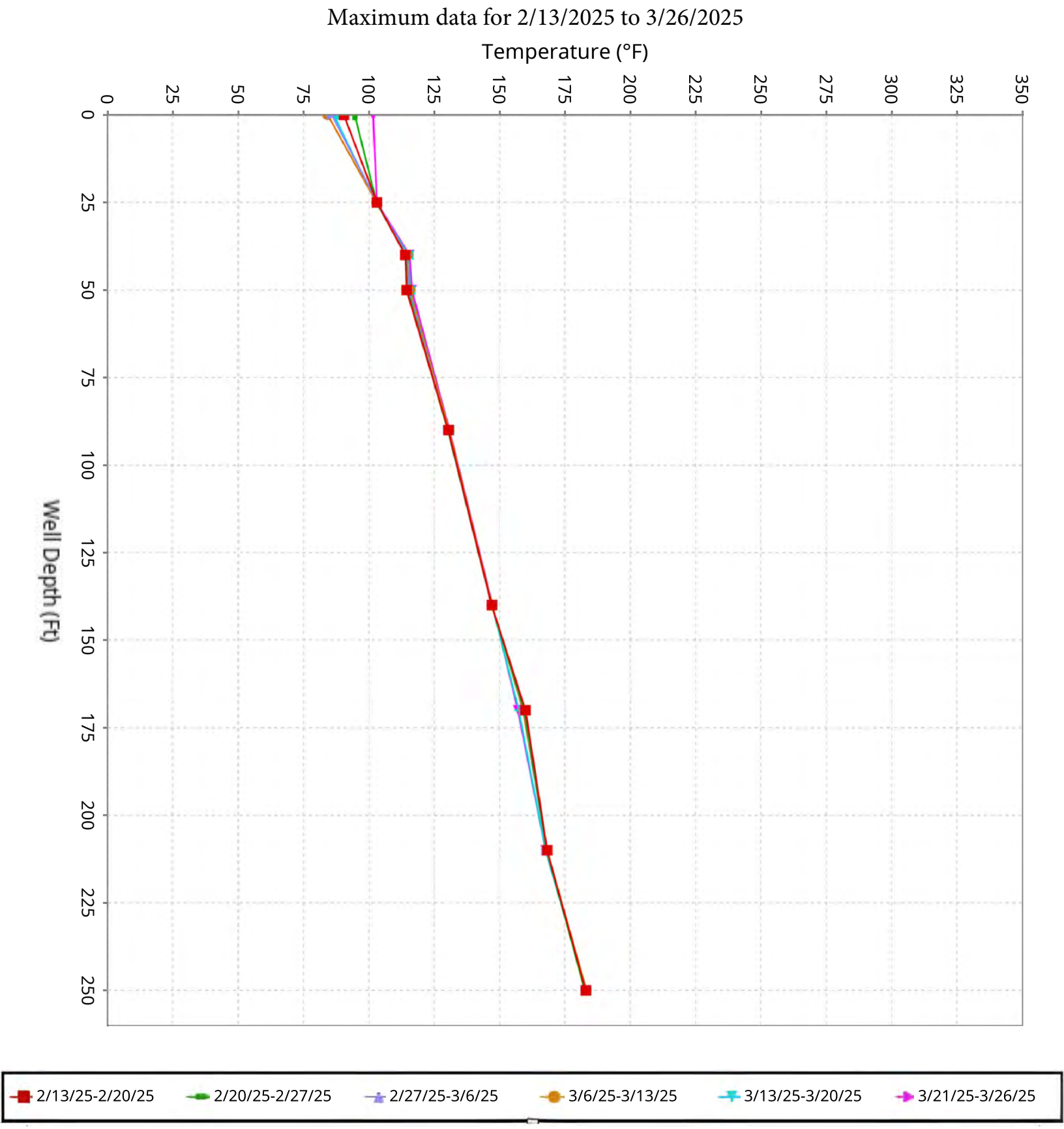
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-27



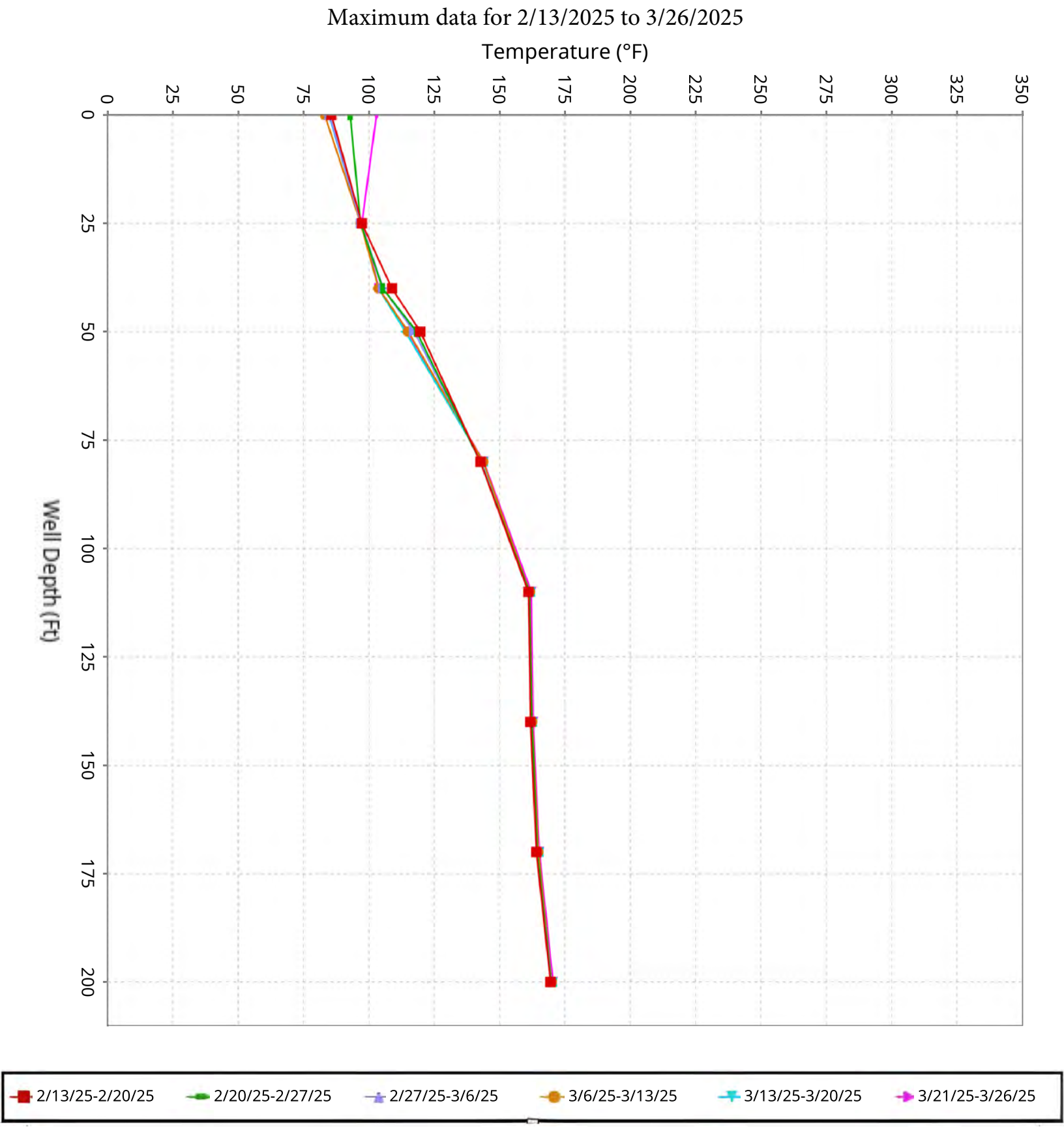
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-29



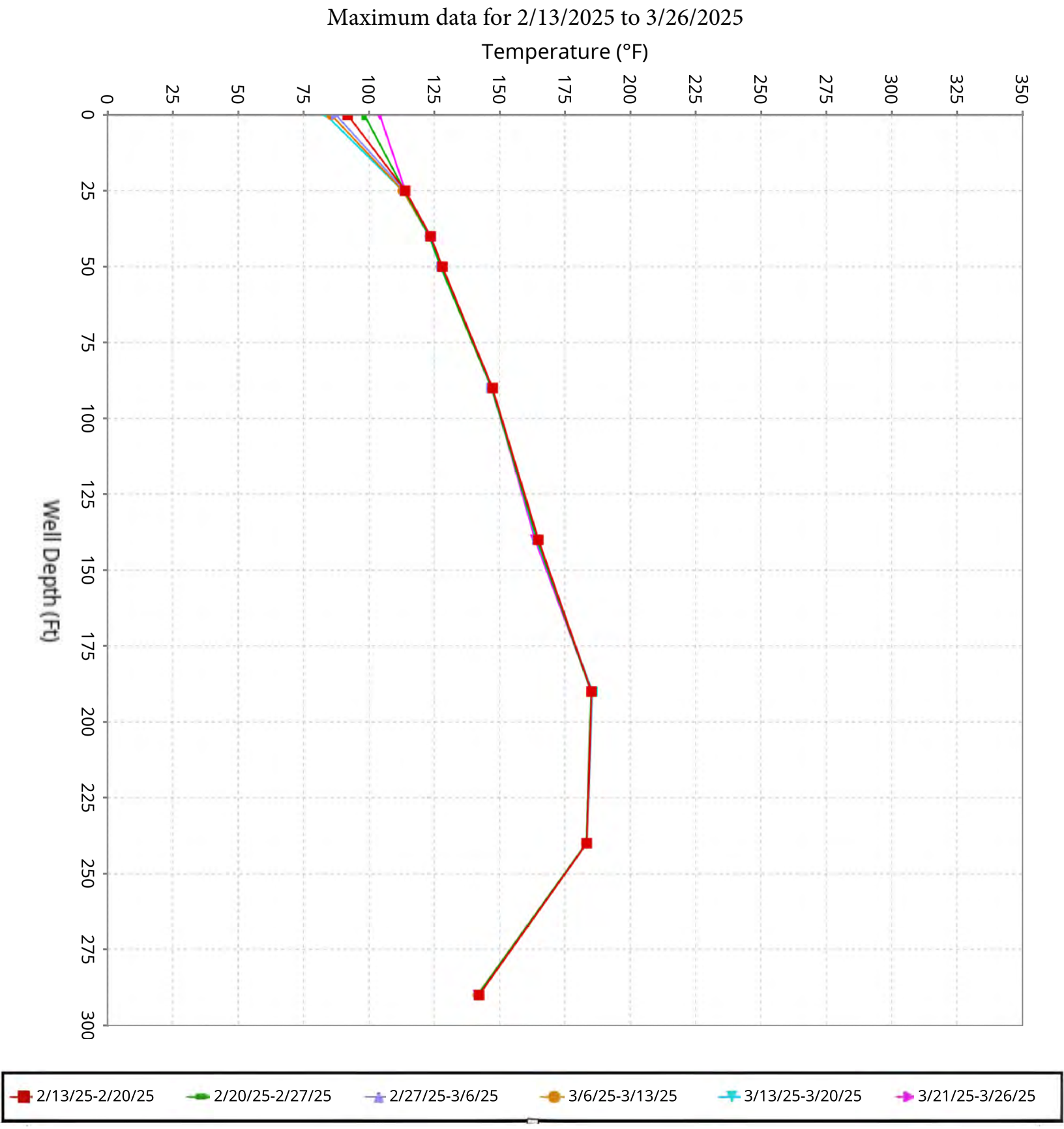
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-30



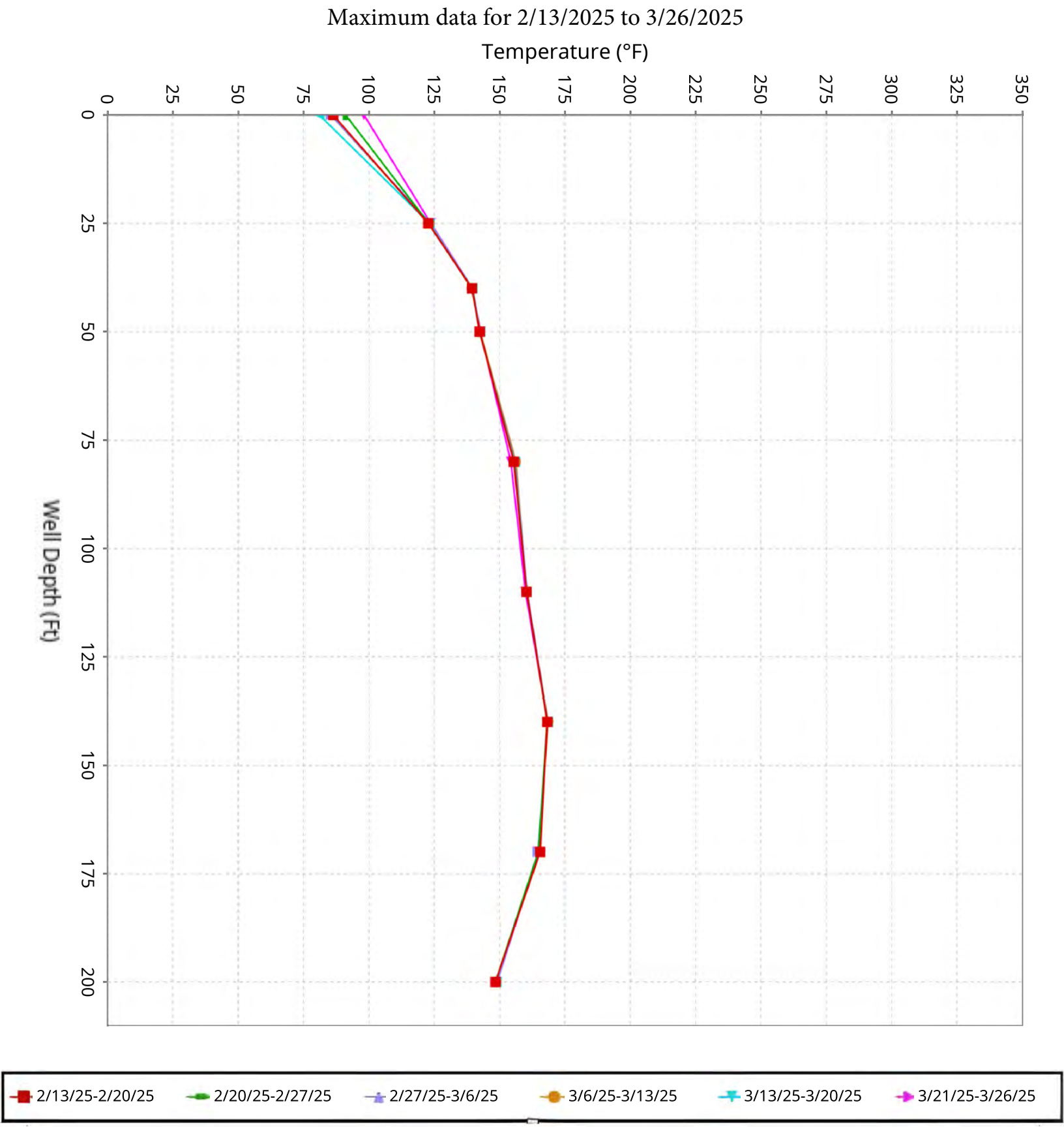
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-31



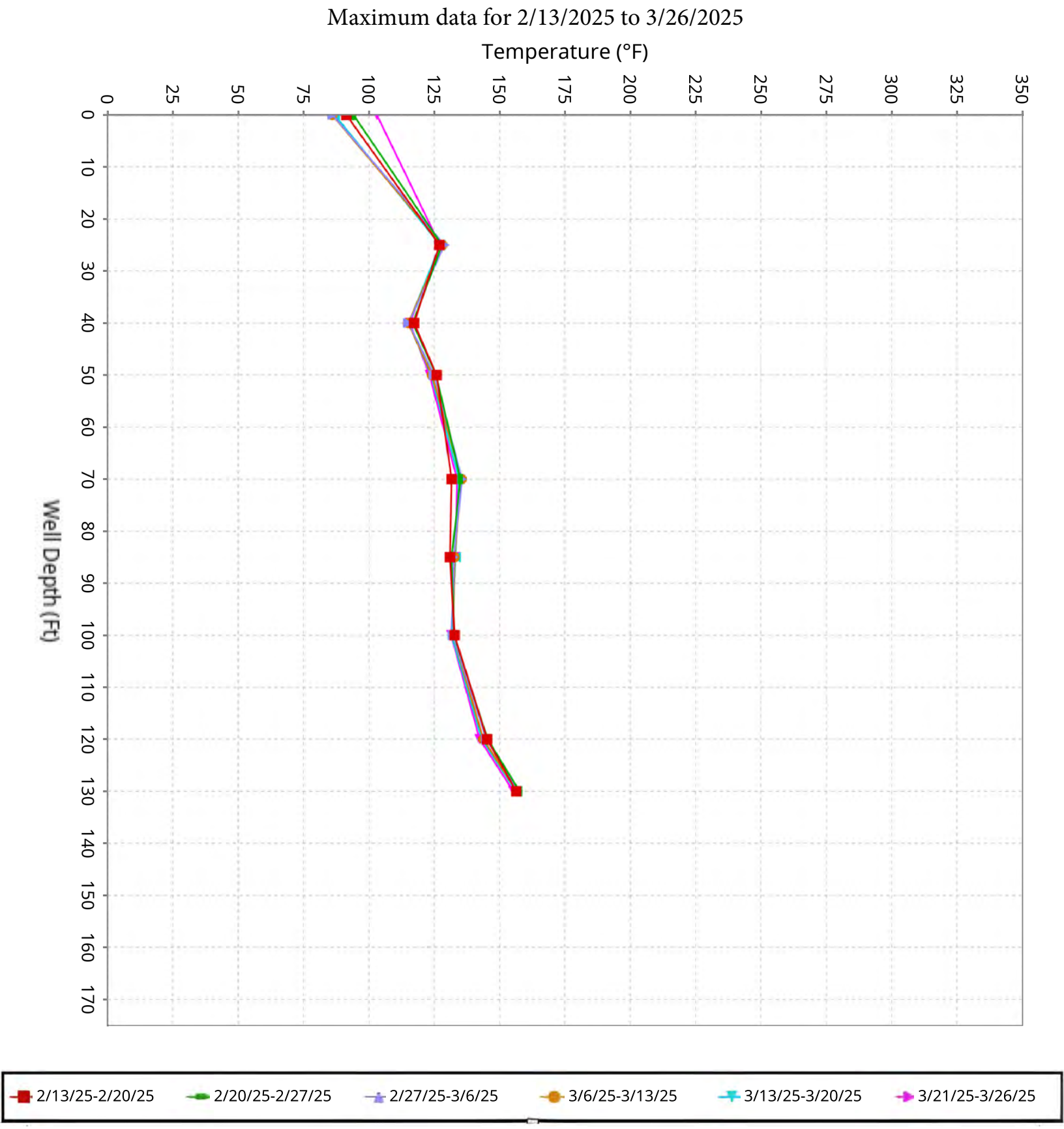
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-32



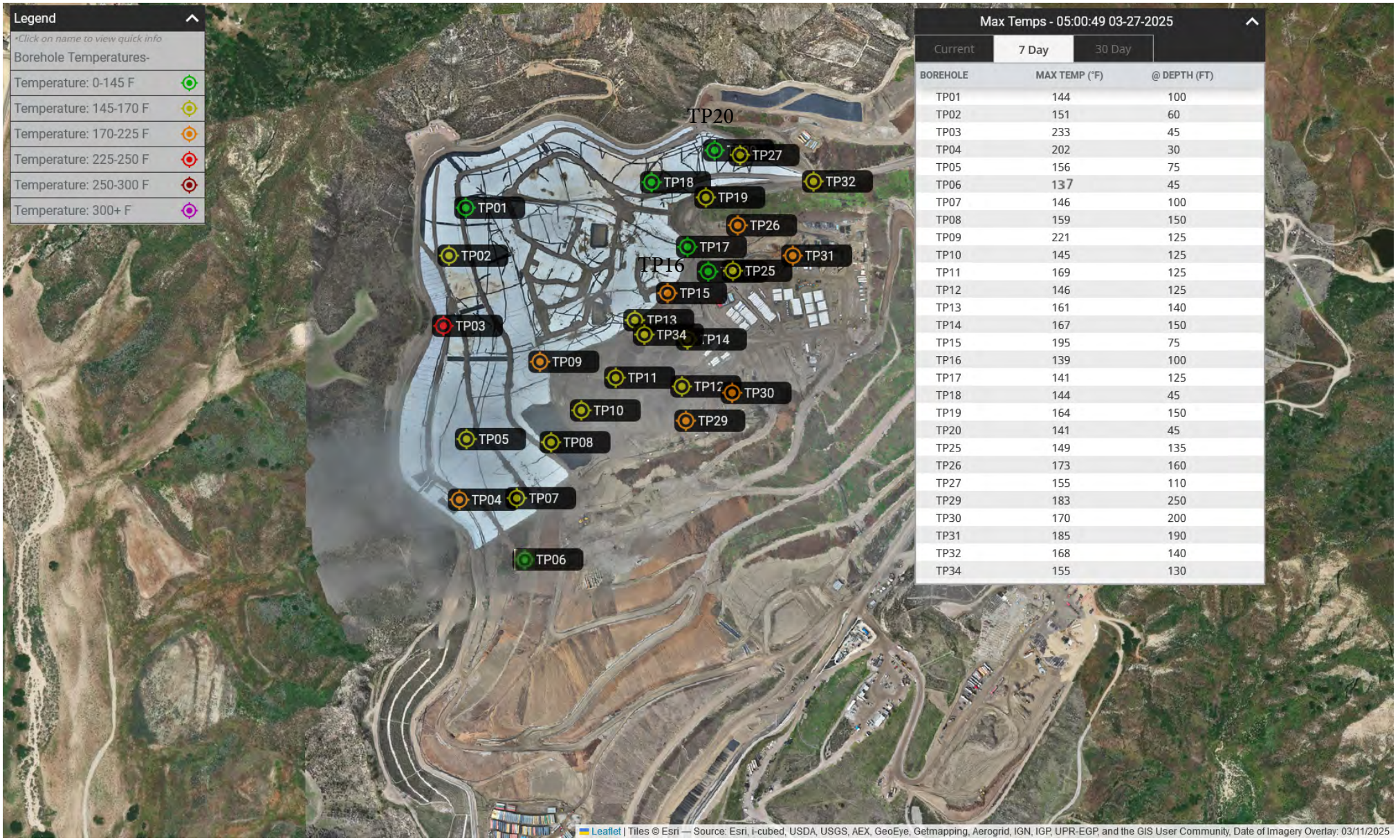
SCS ENGINEERS

Vertical Temperature Profiles from Temperature Probes at Chiquita Landfill for TP-34



SCS ENGINEERS

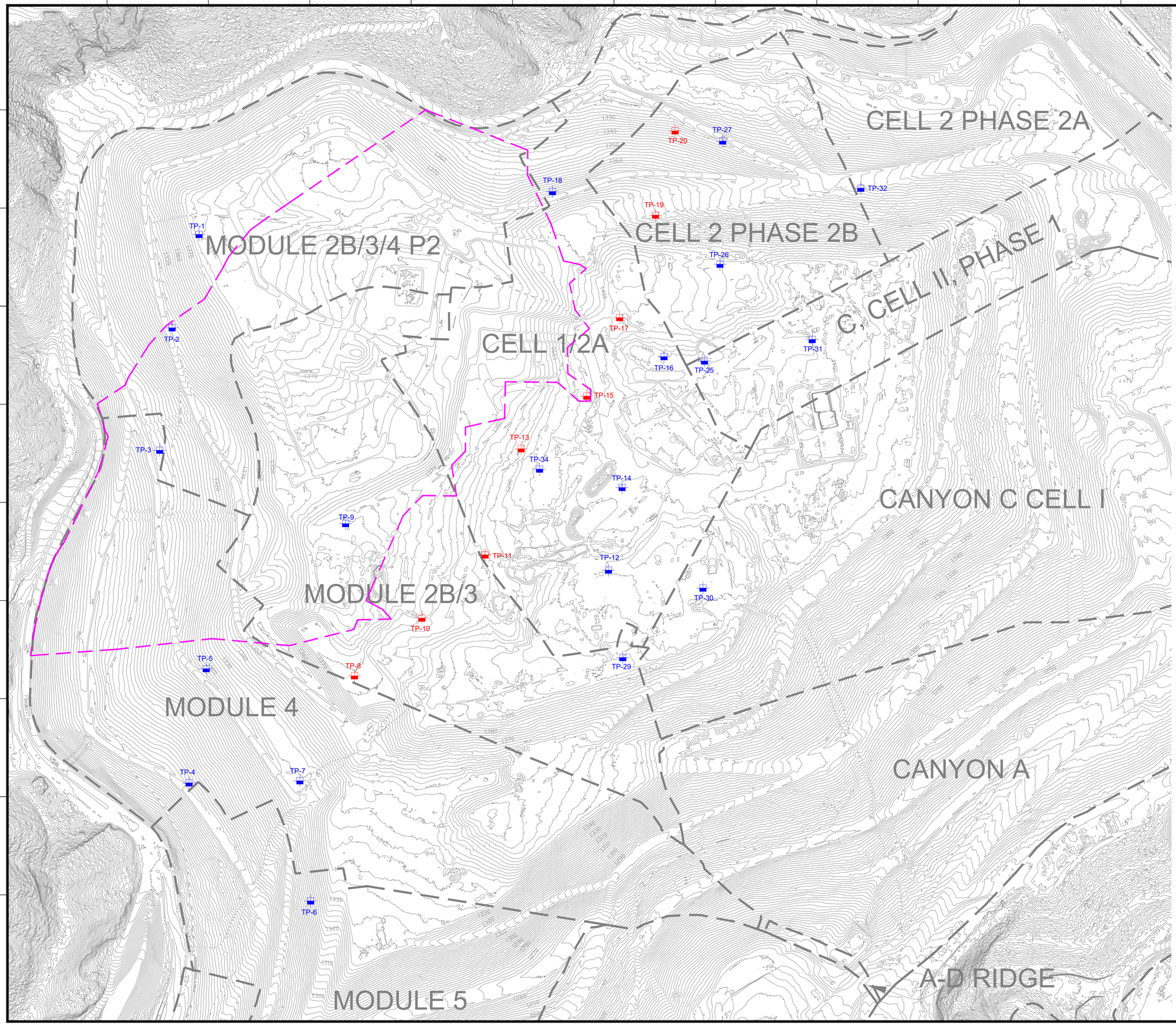
Maximum Vertical Temperature Map from Temperature Probes at Chiquita Landfill



Max Temps - 05:00:49 03-27-2025

Current | 7 Day | 30 Day

BOREHOLE	MAX TEMP (°F)	@ DEPTH (FT)
TP01	144	100
TP02	151	60
TP03	233	45
TP04	202	30
TP05	156	75
TP06	137	45
TP07	146	100
TP08	159	150
TP09	221	125
TP10	145	125
TP11	169	125
TP12	146	125
TP13	161	140
TP14	167	150
TP15	195	75
TP16	139	100
TP17	141	125
TP18	144	45
TP19	164	150
TP20	141	45
TP25	149	135
TP26	173	160
TP27	155	110
TP29	183	250
TP30	170	200
TP31	185	190
TP32	168	140
TP34	155	130



N

GRAPHIC SCALE

130 65 0 130 260 390

SCALE: 1"=130'

LEGEND

- 1150 — EXISTING TOPOGRAPHIC CONTOUR
- EXISTING CELL LIMITS (APPROXIMATE)
- TP-XX — INSTALLED TEMPERATURE PROBES - STANDALONE
- TP-XX — INSTALLED TEMPERATURE PROBES - INSTALLED WITHIN WELL CASING
- REACTION AREA BOUNDARY (APPROXIMATE) - BASED ON DATA REVIEW

GENERAL DRAWING NOTES:

1. EXISTING TOPOGRAPHIC SURVEY INFORMATION SHOWN WAS PROVIDED BY PROPELLER. AERIAL PHOTOGRAPHY DATED FEBRUARY 06, 2025.
2. NORTH ARROW SHOWN HERE IS REFERENCE TO THE CALIFORNIA STATE PLANE ZONE V COORDINATE SYSTEM, NAD 83.

NO.	REVISION	DATE

SHEET TITLE: TEMPERATURE PROBE INSTALLATION MAP

PROJECT TITLE: TEMPERATURE PROBE INSTALLATION PROJECT
CHIQUITA CANYON LANDFILL
CASTAIC, CALIFORNIA

CLIENT: CHIQUITA CANYON LANDFILL
CASTAIC, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
8799 BALBOA AVENUE SUITE 290
SAN DIEGO, CA 92123
(858) 571-3500 FAX: (562) 427-0805

DSN. BY:	PROJ. NO.	DWN. BY:	CHK. BY:	APP. BY:	ACAD FILE:
JH/SRM	01204123.41	SRM	JH/WCH	WCH	ENGINEERS

DATE: 02/20/2025

SCALE: AS SHOWN

SHEET: 1

State of California
CalRecycle 218 (Revised 9/11)

Department of Resources Recycling and Recovery (CalRecycle)

REQUEST FOR HEARING

Before the Local Solid Waste Hearing Panel or Hearing Officer

Public Resources Code (PRC) 44310 et. seq.

Enforcement Agency:					
Facility Name:		SWIS No:			
Facility Address:		City:		Zip Code:	

Name of Petitioner:	
Requests a Hearing in the matter of (check one):	

- ☐ Challenge terms and/or conditions of the issued (PRC 44307) Solid Waste Facility Permit (SWFP)
- ☐ Appeal an enforcement order (PRC 44307, 45017(b))
- ☐ Alleged failure of the EA to act as required by law or regulation (PRC 44307)
- ☐ Appeal completeness review of ☐ Registration (CCR 18104.4) or ☐ Standardized (CCR 18105.4) SWFP.
- ☐ Denial of the SWFP (PRC 44300)
- ☐ Suspension of the SWFP (PRC 44305)
- ☐ Revocation of the SWFP (PRC 44306)
- ☐ Denial of Proposed RFI Amendment(s) (CCR 21665)

Statement of the Issues (Appellants may wish to add additional pages to fully explain the legal and factual basis for their appeal) :	☐ Check if additional pages are attached.

Signature:		Typed Name:	
Title:		Date:	

ATTACHMENT D

South Coast Air Quality Management District
21865 COPLEY DRIVE, DIAMOND BAR, CA 91765-4178

P80892

NOTICE OF VIOLATION

DATE OF VIOLATION		
Month:	Day:	Year:
12	6	24

Facility Name:	Facility ID#:	Sector:
Chiquita Canyon Landfill	119219	VB

Location Address:	City:	Zip:
29201 Henry Mayo Dr.	Castaic	91384

Mailing Address:	City:	Zip:
29201 Henry Mayo Dr.	Castaic	91384

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.
EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	42401	Order for Abatement Case No. 6177-4	78	Failure to complete installation of a liner of 60 mil polyethylene sheeting (or other equivalent flexible membrane cover) for each leachate tanks and/or tank farms within 120 days of this Order
2	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	42401	Order for Abatement Case No. 6177-4	68	Failure to maintain tanks under negative pressure as demonstrated by differential readings in December 2024, January 2025 and February 2025
3	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	42401	Order for Abatement Case No. 6177-4	68	Failure to record pressure readings using significant digits to the hundredths place in December 2024, January 2025 and February 2025
4	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	42401	Order for Abatement Case No. 6177-4	8 & 68	Failure to record all required differential pressure gauge readings in the December 2024 and January 2025 monthly reports
5	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	42401	Order for Abatement Case No. 6177-4	3(a)	Failure to monitor and record daily landfill gas temperature at the inlet of the Landfill Gas Treatment System for December 2024
6	☐ SCAQMD ☒ CH&SC ☐ CCR ☐ CFR	42401	Order for Abatement Case No. 6177-4	8(d)	Failure to report landfill gas temperatures at inlet of the Landfill Gas Treatment System in the monthly report for December 2024

Served To:	Phone:	Served By:	Date Notice Served:
Steve Cassulo	661-371-9214	Christina Ojeda	04/01/2025

Title:	Email:	Phone No:	Email:
District Manager	steven.cassulo@wasteconnections.com	☒ 909-396-2475	cojeda@aqmd.gov

*Key to Authority Abbreviations:
SCAQMD – South Coast Air Quality Management District
CCR – California Code of Regulations
CH&SC – California Health and Safety Code
CFR – Code of Federal Regulations

Method of Service:
☐ In Person ☒ Certified Mail ☒ Electronic Mail

What is a Notice of Violation?

A Notice of Violation is issued by an SCAQMD Air Quality Inspector to inform a business that a failure to comply with one or more applicable federal, state, and/or local (SCAQMD) air pollution rules and regulations or legal requirements is being alleged.

What happens when I receive a Notice of Violation?

If you are operating in violation of one or more applicable federal, state, and/or local (SCAQMD) air pollution rules and regulations or legal requirements, each day or part of a day that you operate in violation is considered a separate violation even if only one Notice of Violation has been issued. Continuing to operate in violation may subject you to substantial civil or criminal penalties. **It is in your best interest to resolve any compliance problem immediately before you resume operation.**

What if I need to continue to operate the equipment named in the Notice of Violation?

If continued operation of equipment cited in the Notice of Violation is necessary, you may be able to obtain a variance from SCAQMD's Hearing Board. A ***variance*** is an administrative order that allows a company to continue operating without penalties while it takes appropriate steps to meet air pollution control requirements. Proof of specific legal circumstances must be provided before a variance can be granted. Timeliness in seeking such relief will be considered by the Hearing Board. Additional information concerning variances can be found in California Health & Safety Code §§ 42350-42359.5 and at ***http://www.aqmd.gov/home/about/hearing-board***.

During a hearing for a variance, you may be represented either by yourself or by your attorney or consultant. You will have the opportunity to present evidence and testimony, and to cross-examine any SCAQMD witness.

If you fail to comply with any order of the Hearing Board, you may be subject to additional civil or criminal penalties set forth in California Health & Safety Code §§ 42400 *et seq.* and 42402 *et seq.*

How are Notices of Violation resolved?

The SCAQMD General Counsel's office reviews each alleged violation and, based on the facts, determines how best to resolve the allegation. Options available to the General Counsel's office include:

- **Minor Source Penalty Assessment Program**

  Certain Notices of Violation may be eligible for resolution through SCAQMD's Minor Source Penalty Assessment Program if they are issued to a minor source or for violations other than emitting air toxics or creating a public nuisance involving injury or property damage.

  If your case is handled by this program, you will receive a letter or phone call from an investigator in the SCAQMD General Counsel's office offering to settle your violation. Settlement terms usually call for a penalty payment and written proof of current compliance. The investigator's name and telephone number are included in the initial settlement letter in the event you would like to discuss the case.

  Be prepared to describe any facts about the violation that you believe SCAQMD should know in considering your case. Sharing your knowledge of the facts, possible causes for the violation and plans to avoid future violations will help the investigator arrive at an appropriate disposition. **Be sure to respond by the date indicated in the letter to avoid further legal action.**

  If the Minor Source Penalty Assessment Program fails to result in a settlement, your Notice of Violation may be referred to an SCAQMD attorney and handled under the procedures for Civil Prosecution or resolved through a Small Claims Court.

- **Civil Prosecution**

  If your case is handled as a civil matter, it will be reviewed by an attorney from the SCAQMD General Counsel's office, who will typically make first contact with you through a letter that asks for information about your case. If the allegations in the Notice of Violation cannot be informally resolved, the SCAQMD is authorized to file a civil lawsuit in court to recover civil penalties. In cases involving serious harm or danger, however, SCAQMD may immediately commence a legal action for civil penalties and a court-ordered injunction. A **mandatory injunction** is a court order compelling a person and/or company to take specific action. A **prohibitory injunction** is a court order compelling a person and/or company to refrain from taking a specific action. Injunctions, which may even lead to shutting down a business, may be sought by SCAQMD to prevent continuing or serious violations or damages from occurring.

- **Criminal Prosecution**

  If SCAQMD determines that criminal prosecution is appropriate, the case will be referred to the appropriate state or federal law enforcement agency. That agency will determine if criminal prosecution is warranted.

Civil and Criminal Penalties

Penalties are determined by California Health & Safety Code §§ 42400 *et seq.* and 42402 *et seq.*

Available Resources

You can obtain SCAQMD Rules, permit application forms, and detailed information about SCAQMD and the Hearing Board using the resources provided below:

Contact Numbers		Useful Links	
General Information:			
SCAQMD Headquarters General Number	(909) 396-2218	About SCAQMD	http://www.aqmd.gov/home/about
		Enforcement Authority	http://www.aqmd.gov/home/about/authority/enforcement
General Counsel's Office	(909) 396-3400	Compliance Notices	http://www.aqmd.gov/home/regulations/compliance/compliance-notices
		SCAQMD Rules	http://www.aqmd.gov/home/regulations/rules
Obtaining Permit or Billing Information:			
Small Business Assistance	(800) 388-2121	Getting Permits	http://www.aqmd.gov/home/permits
Permit Information	(909) 396-2468	Permit Forms	http://www.aqmd.gov/home/permits/permit-application-forms
Billing Services	(866) 888-8838 (909) 396-2900	Permitting Fees	http://www.aqmd.gov/home/permits/fees
Variances:			
Clerk of the Hearing Board	(909) 396-2500	The Hearing Board	http://www.aqmd.gov/home/about/hearing-board

ATTACHMENT E

Department of Toxic Substances Control

Yana Garcia
Secretary for
Environmental Protection

Katherine M. Butler, MPH, Director
7575 Metropolitan Drive, Suite 108
San Diego, California 92108
https://dtsc.ca.gov/

Gavin Newsom
Governor

SUMMARY OF VIOLATIONS

On or before April 1, 2025, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), reviewed documentation related to:

Facility Name:	Chiquita Canyon, LLC; Chiquita Canyon, Inc.; Waste Connections US, Inc.		
Facility Address:	29201 Henry Mayo Dr, Castaic, CA 91384		
EPA ID Numbers:	CAL000347030, CAR000381574	**County:**	Los Angeles

As a result of DTSC's investigation, DTSC discovered violations of the California Hazardous Waste Control Law (HWCL) and its implementing regulations that are identified on the attached pages. You must correct the following violations within the schedule for compliance for each violation. If you disagree with the alleged violations listed in this Summary of Violations, you must inform DTSC in writing. If additional violations exist or have existed which are not included in this Summary of Violations, such violations, if any, may be the subject of an amended or separate Summary of Violations and DTSC reserves all rights with respect to such violations.

You may request a meeting with DTSC to discuss the investigation or this Summary of Violations. The issuance of this Summary of Violations does not preclude DTSC from taking administrative and/or civil action or from referring the matter for criminal prosecution as a result of the violations identified herein or violations that have not been corrected within the time specified by DTSC. Failure to comply with a schedule for compliance, including without limitation the schedule of compliance in this Summary of Violations, is a violation of the law and is subject to a civil penalty of up to $70,000 for each day of noncompliance. In addition, a false statement that compliance has been achieved is a violation of the law and is subject to a penalty of up to $70,000 for each occurrence. DTSC may re-investigate this facility at any time.

Facility Representative Accepting Summary of Violations		DTSC Representative	
Name:	Steve Cassulo	**Name:**	Erin Neal
Signature:	Steven J Cassulo	**Signature:**	Erin Neal
Title:	District Manager	**Title:**	Senior Environmental Scientist
Date:	4/4/25	**Date:**	4/1/2025

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SUMMARY OF VIOLATIONS

Facility Name: Chiquita Canyon, LLC; Chiquita Canyon, Inc; Waste Connections US, Inc. **Date:** 4/1/2025

BACKGROUND

Chiquita Canyon Landfill (CCL or Landfill) is a 639-acre Class III non-hazardous municipal solid waste (MSW) landfill located in the northern portion of the County of Los Angeles. CCL has experienced, and continues to experience, a Subsurface Elevated Temperature (SET) event, which has resulted in excessive leachate production, significant landfill ground settlement over a short period of time[1], and release of noxious odors.

Chiquita Canyon, LLC, Chiquita Canyon, Inc., and Waste Connections US, Inc. operate CCL, including managing, directing, and conducting operations related to hazardous waste.

On November 2, 2023, December 12–13, 2023, and February 20 and 27, 2024, DTSC conducted or participated in multi-agency site visits at CCL. During the December 12, 2023 site visit, DTSC collected samples of landfill leachate and determined the samples exceeded Resource Conservation and Recovery Act (RCRA) and California hazardous waste regulatory levels for benzene. Subsequent sampling by CCL has also shown regulatory hazardous waste threshold exceedances in leachate and/or condensate at CCL.

Various regulatory agencies, including DTSC, are actively involved with overseeing CCL as part of the Multi-Agency Critical Action Team (MCAT). The MCAT also includes agencies such as the United States Environmental Protection Agency (US EPA), California Environmental Protection Agency (CalEPA), South Coast Air Quality Management District (South Coast AQMD), California's Department of Resources Recycling and Recovery (CalRecycle), Los Angeles Regional Water Quality Control Board (Los Angeles RWQCB), California Air Resources Board (CARB), California Office of Environmental Health Hazard Assessment (OEHHA), and the Los Angeles County Departments of Public Health, Regional Planning and Public Works. The Los Angeles

[1] Landfill ground settlement is generally defined as the vertical displacement of waste as a result of compression and waste degradation. According to monthly reports submitted by CCL to the South Coast AQMD as required per Condition 8 of the South Coast AQMD Abatement Order, accelerated settlement of the landfill surface is defined as approximately six inches or greater within a 60-day period, and cracks in the landfill cover.

County Department of Public Health, Solid Waste Management Program, is certified to act as the Local Enforcement Agency (LEA) by CalRecycle.

On February 15, and March 29, 2024, DTSC issued two Summaries of Violation (SOV) to CCL identifying alleged violations of the California Hazardous Waste Control Act (Health & Safety Code (HSC) sec. 25100, et seq.; also known as HWCL). Per the SOV dated February 15, 2024, DTSC alleges that CCL failed to minimize the possibility of a release of hazardous waste or hazardous waste constituents, which included a compliance requirement to report all releases of hazardous waste to DTSC.

On September 6, 2023, the South Coast AQMD Hearing Board approved an Order for Abatement that required CCL to take actions to reduce odors from the Landfill that have impacted the community. Pursuant to this Order for Abatement, CCL submits reports summarizing Landfill leachate leak, spill, and seep information. Additionally, pursuant to the Los Angeles RWQCB's Monitoring and Reporting Program (No. CI-6231), CCL is required to report leachate seeps. The reports submitted to South Coast AQMD and the Los Angeles RWQCB are published on CCL's website (https://chiquitacanyon.com/odor-mitigation/).

CCL has also submitted hazardous material spill reports to the California Governor's Office of Emergency Services (CalOES), which are published to the CalOES Spill Release Reporting Dashboard (https://www.caloes.ca.gov/office-of-the-director/operations/response-operations/fire-rescue/hazardous-materials/spill-release-reporting/).

On March 28, 2025, CalRecycle transmitted a letter to the LEA with a Technical Memorandum from Dr. Stark dated February 26, 2025, which included an analysis of the current SET event conditions at CCL and remedial recommendations. The Technical Memorandum indicates that the SET event has migrated from the western slope to the eastern side of the Landfill where Tank Farm #9 is located. Tank Farm #9 stores and treats hazardous waste leachate on-site.

SECTION I: NON - MINOR VIOLATIONS AND REQUIRED CORRECTIVE ACTION (Violations not considered Minor Violations)

CCL must correct the following violation(s) within the specified time frame for each violation.

VIOLATION # 1

Violation Citation:

California Code of Regulations (Cal. Code Regs.), title 22, section 66262.17(a)(9), A large quantity generator may accumulate hazardous waste on site without a permit or

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interim status, and without complying with the requirements of chapters 14, 15, 16, and 20 of this division, or the notification requirements pursuant to Health and Safety Code section 25153.6, provided that all the following are met:

(a) Accumulation. A large quantity generator accumulates hazardous waste on site for no more than 90 days, unless in compliance with the accumulation time limit extension in subsection (b) of this section or section 66262.35 of this article. The following accumulation conditions also apply:

…

(9) Land disposal restrictions. The large quantity generator shall comply with all applicable requirements under chapter 18 of this division.

Relevant Citations:

Cal. Code Regs., tit. 22, div. 4.5, ch. 18, § 66268.7(a), Requirements for generators:

(1) A generator of hazardous waste shall determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards in article 4 or article 11 of this chapter…

Cal. Code Regs., tit. 22, § 66268.40(a), A prohibited waste identified in the table "Treatment Standards for Hazardous Wastes" may be land disposed only if it meets the requirements found in the table[2]…

Cal. Code Regs., tit. 22, § 66268.40(e), For characteristic wastes (D001-D043) that are subject to treatment standards in the following table "Treatment Standards for Hazardous Wastes," and are not managed in a wastewater treatment system that is regulated under the federal Clean Water Act (CWA), that is federal CWA-equivalent, or that is injected into a Class I nonhazardous deep injection well, all underlying hazardous constituents (as defined in section 66260.10) shall meet Universal Treatment Standards, found in section 66268.48, Table Universal Treatment Standards, prior to land disposal as defined in section 66260.10 of this division.

Health and Safety Code (HSC) § 25189.2(b), Except as provided in subdivision (c) or (d), a person who violates a provision of this chapter or a permit, rule, regulation, standard, or requirement issued or adopted pursuant to this chapter, is liable for a civil penalty not to exceed seventy thousand dollars ($70,000) for each violation of a separate provision or, for continuing violations, for each day that the violation continues.

Description:

On and/or before November 11, 2024, CCL failed to comply with land disposal restriction requirements. On November 10 and 11, 2024, shipment of three loads of leachate from one of CCL's leachate tanks (Tank #172) were disposed of at Red Rock Landfill located at 22316 South Harmon Road, Florence, Arizona 85132. Prior to the shipment of the three loads, CCL sampled Tank #172. The leachate loads were

[2] Cal. Code Regs., tit. 22, § 66268.40 Table

solidified and disposed of at Red Rock Landfill prior to CCL receiving the test results. On November 12, 2024, sample results from Tank #172 showed a methyl ethyl ketone (MEK) concentration of 39 mg/L, in exceedance of the nonwastewater Universal Treatment Standard for MEK of 36 mg/kg. On November 27, 2024, CCL sent a notification letter to Red Rock Landfill acknowledging these shipments exceeded the applicable LDR treatment standard for MEK (attached as Exhibit A).

Violation Classification:
This is a class 1 violation.

Compliance Requirement:
CCL shall comply with all applicable requirements for land disposal restrictions. Within 30 days of this SOV, CCL shall provide the lab results for all samples collected from Tank #172 on November 2 and 9, 2024. CCL shall also provide a written description of the "Tank Release" program and a copy of the Standard Operating Guideline referenced in CCL's November 27, 2024 notification letter to Red Rock Landfill.

VIOLATION # 2A
Violation Citation:
Cal. Code Regs., tit. 22, § 66262.251, A large quantity generator shall maintain and operate its facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Relevant Citations:
HSC § 25189.2(b), Except as provided in subdivision (c) or (d), a person who violates a provision of this chapter or a permit, rule, regulation, standard, or requirement issued or adopted pursuant to this chapter, is liable for a civil penalty not to exceed seventy thousand dollars ($70,000) for each violation of a separate provision or, for continuing violations, for each day that the violation continues.

Description:
On and/or before March 17, 2025, CCL failed to minimize the possibility of a release of hazardous waste or hazardous waste constituents to air, soil or surface water which could threaten human health or the environment. The accounts of these incidents are described in reports posted on CCL's website (https://chiquitacanyon.com/odor-mitigation/) and the CalOES Spill Release Reporting Dashboard (attached to this SOV as Exhibit B). DTSC was not directly notified by CCL of these alleged releases as required per the Summary of Violations issued by DTSC to CCL on February 15, 2024.

The individual releases that form the basis for this Violation #2A are attached as counts 1 – 42 in Exhibit C.

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Violation Classification:
These are class 1 violations.

Compliance Requirement:
CCL shall operate its facility in a manner that minimizes the possibility of a sudden or non-sudden release of hazardous waste or hazardous waste constituents.

Within 72 hours of all releases, and for each individual release, CCL shall send a Release Notification to the Department, attention to Erin Neal (Erin.Neal@dtsc.ca.gov) and Zana Zmily (Zanalee.Zmily@dtsc.ca.gov). This Release Notification shall include the substance involved, the date and time of the release, the grid location and coordinates of the release, a detailed description of the release source (including, if applicable, tank number, tank train identification, dewatering bin identification, or well number), the cause of the release, the volume of the release, the duration of presence of the release, the waste determination of the release and any contaminated material that results from the mitigation of the release, sampling results (if applicable), photographs of the release, list of agencies notified of the release, and corrective actions taken, including the on-site disposition and intended final destination of all recovered material and/or waste, and any contaminated media (i.e., tank farm number, train identification, tank number, grid number, and roll-off bin). All sample results for releases shall be sent to the Department within 48 hours of CCL receiving laboratory reports.

Within 30 days of this SOV, CCL shall provide complete Release Notifications for each release listed in Exhibit C, to the extent this information was not previously included in the reports posted on CCL's website or on the CalOES Spill Release Reporting Dashboard.

Within 30 days of this SOV, CCL shall also provide a written explanation of 1) mitigation measures taken to prevent future releases, 2) any additional mitigation measures currently planned to address releases, and 3) any plan for future mitigation measures should the prior or currently planned mitigation measures prove ineffective at minimizing releases.

VIOLATION # 2B
Violation Citation:
Cal. Code Regs., tit. 22, § 66262.251, A large quantity generator shall maintain and operate its facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

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Relevant Citations:
HSC § 25189.2(b), Except as provided in subdivision (c) or (d), a person who violates a provision of this chapter or a permit, rule, regulation, standard, or requirement issued or adopted pursuant to this chapter, is liable for a civil penalty not to exceed seventy thousand dollars ($70,000) for each violation of a separate provision or, for continuing violations, for each day that the violation continues.

Description:
Beginning on or before February 17, 2025, CCL failed to minimize the possibility of a release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. Per CCL's February 25, 2025 Weekly Report on the Documentation and Tracking of Cover Issues to the LEA, fissures, tension cracks, and a sinkhole were observed in grids 147, 148, and 154 (grids adjacent to Tank Farm #9) (attached as Exhibit D). Based on maps CCL reports weekly, Tank Farm #9 is located on fill in grids 32, 53, 59, 81, 82, 148, 149, and 153, which is the north-central, northeast side of the Landfill (attached as Exhibit I). The Geo-Logic Associates' February 2025 Fissure and Tension Crack Monitoring Summary dated March 10, 2025 provides a map overview of cracks and fissures reported in February 2025 (attached as Exhibit D).

CalRecycle's letter dated March 28, 2025 with the Technical Memorandum from Dr. Stark addresses expansion of the SET event into and settlement under Tank Farm #9 (attached as Exhibit D). Per Dr. Stark's Technical Memorandum, elevated temperatures (185 °F to 189 °F) surround the leachate tank farm, indicating this area will undergo significant settlement due to thermal breakdown of buried waste. In addition, CCL's February 25, 2025 Weekly Report confirms that settlement has started to occur around the leachate tank farm. Dr. Stark's Technical Memorandum also states that grid 147 "experienced a significant sinkhole, which indicates a significant thermal breakdown of buried waste that resulted in a void developing below the interim soil cover."

Tank Farm #9 contains a treatment system that treats hazardous waste leachate. As of February 2025, Tank Farm #9 contains over one hundred 20,000-gallon capacity leachate storage tanks that store hazardous waste leachate, leachate that has been treated below hazardous waste regulatory thresholds, and condensate. Significant settlement may have a negative impact on the integrity and/or stability of these tanks and associated ancillary equipment, (e.g., piping collecting and diverting hazardous waste leachate to treatment) which could result in hazardous waste leachate releases. As a result, CCL has failed to minimize the possibility of a release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment by treating and/or storing hazardous waste leachate, leachate with hazardous waste constituents, and condensate in Tank Farm #9.

Violation Classification:
This is a class I violation.

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Compliance Requirement:
CCL shall operate its facility in a manner that minimizes the possibility of a sudden or non-sudden release of hazardous waste or hazardous waste constituents. CCL shall not treat and/or store hazardous waste leachate, treated leachate, and hazardous waste condensate in areas that are impacted, or have the potential to be impacted by, significant settlement and/or high subsurface temperatures which reasonably could result in significant settlement. All tanks and ancillary equipment involved in the treatment and storage of hazardous waste or hazardous waste constituents must be managed properly to prevent the possibility of a release. Per day penalties apply for each day that the facility remains in violation.

Within 30 days of this SOV, CCL shall provide a written statement, including without limitation photographs documenting how the facility returned to compliance. Prior to implementation, CCL shall notify the Department in writing of all leachate and condensate tank movement. CCL shall consider criteria provided by CalEPA on March 6, 2025 when relocating leachate and condensate tanks. In addition, CCL shall provide up-to-date, annotated Landfill maps of leachate and/or condensate collection, treatment, and storage areas. These maps shall include accurate and current labeling of tank numbers, well heads, and piping. Tank farm maps shall accurately designate which tanks hold hazardous and treated leachate and/or condensate, as well as the associated leachate train of origin. These tank farm and gas/leachate collection well maps shall be sent to the Department, attention to Erin Neal (Erin.Neal@dtsc.ca.gov) and Zana Zmily (Zanalee.Zmily@dtsc.ca.gov), every 1st Tuesday of each month.

CCL shall also send isopach maps, Landfill settlement maps, and maximum vertical temperature maps from temperatures probes on a weekly basis to the Department, attention to Erin Neal (Erin.Neal@dtsc.ca.gov) and Zana Zmily (Zanalee.Zmily@dtsc.ca.gov).

SECTION II: OTHER ISSUES/CONCERNS

The following issues/concerns were identified during this investigation. Further research may identify additional violations.

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1. CCL has notified CalOES, South Coast AQMD, and RWQCB of leachate and/or condensate releases on-site through CalOES Spill Reports, the South Coast AQMD Abatement Order Condition 27(c) Weekly Leachate Inspection Reports, the South Coast AQMD Abatement Order Condition 27(e) Leak Reports, and the RWQCB Leachate Seep Reports (attached as Exhibit F). However, DTSC has not been directly notified by CCL of these releases which may have involved hazardous waste leachate and/or condensate. CCL shall notify DTSC, attention

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to Erin Neal (Erin.Neal@dtsc.ca.gov) and Zana Zmily (Zanalee.Zmily@dtsc.ca.gov), of all releases of leachate and condensate within 72 hours of each incident. Releases may include, but are not limited to, spills, geysers, leaks, and seeps. Release Notifications shall include all information listed in the Compliance Requirement section of Violation #2A above. Within 30 days of this SOV, CCL shall provide Release Notifications for each individual incident listed in Exhibit E 1 through 96 attached and all releases to-date that are not listed in either Exhibit C or Exhibit E.

2. Per CalOES Spill Report #24-4177, CCL released 200 gallons of sodium hydroxide 50% solution with water onto the ground on July 22, 2024 (attached as Exhibit G). According to the report, the release occurred when a 275-gallon tote slipped off a flat-bed tractor while it was being unloaded. Within 30 days of this SOV, CCL shall 1) provide the safety data sheet for the sodium hydroxide solution spilled, 2) provide a description of the incident, cleanup actions, and the final destination of contaminated absorbent, impacted dirt, and all other impacted media, and 3) any and all sample results associated with this incident.

3. Per CalOES Spill Report #24-3493, 50 gallons of diesel fuel were released onto the ground, impacting the soil on the side of State Route 126 on June 19, 2024 (attached as Exhibit H). A third-party tractor trailer freight truck punctured its 50-gallon saddle tank when it struck an unknown object at CCL. Per the report, the spill was not stopped or contained, and no CalOES update report is available for this incident. Within 30 days of this SOV, CCL shall provide a detailed description of the spill location, the cleanup actions taken, and the final destination of impacted dirt and all other impacted media.

4. CCL asserts ongoing on-site hazardous waste leachate treatment is conducted under the immediate response exemption pursuant to Cal. Code Regs. tit. 22, §§ 66264.1(g)(8)(A)2, 66265.1(e)(11)(A)2, and 66270.1(c)(3)(A)2. CCL has not provided sufficient information to DTSC to support the continued use of the immediate response exemption. CCL shall continue, without delay, working toward obtaining the appropriate authorization to treat hazardous waste leachate on-site.

5. CCL is required to ensure waste determinations are conducted at the point of generation, as required per Cal. Code Regs., tit. 22, § 66262.11. In May 2024, CCL provided waste determinations for six categories of leachate generated at the facility. In November 2024, CCL updated the waste determination for “Group B” leachate from non-hazardous to hazardous. Since May 2024, CCL has installed approximately 118 additional leachate pumps. With the expansion of the SET event and dewatering system, DTSC is concerned that CCL’s 2024 waste determinations may not accurately reflect the current composition of the leachate

at the facility. Within 30 days, CCL shall provide current waste determination information for all leachate waste generated at the facility.

ATTACHMENTS:

Exhibit A: Violation #1 Supporting Documents (contains the November 27, 2024 notification letter from CCL to Red Rock Landfill)

Exhibit B: Violation #2A Supporting Documents (contains CalOES reports, CCL's South Coast AQMD Abatement Order reports, CCL's RWQCB reports, a CCL's Reaction Committee Meeting Summary, and email correspondence)

Exhibit C: Table 1 – Violation #2A Counts

Exhibit D: Violation #2B Supporting Documents (contains CalRecycle's March 28, 2025 letter to the LEA with the February 26, 2025 Technical Memorandum from Dr. Stark, Geo-Logic Associates March 10, 2025 Summary, and CCL's February 25, 2025 Weekly Report on the Documentation and Tracking of Cover Issues to the LEA)

Exhibit E: Table 2 – Other Issues/Concerns #1 – Incidents

Exhibit F: Other Issues/Concerns #1 Supporting Documents (contains CalOES reports, CCL's South Coast AQMD Abatement Order reports, CCL's RWQCB reports, and email correspondence)

Exhibit G: Other Issues/Concerns #2 Supporting Documents (contains CalOES reports)

Exhibit H: Other Issues/Concerns #3 Supporting Documents (contains CalOES report)

Exhibit I: CCL Satellite Grid Map

ATTACHMENT F

CHIQUITA CANYON
A Waste Connections Company

May 1, 2025

Via E-Mail

Erin Neal
Senior Environmental Scientist
Department of Toxic Substances Control
7575 Metropolitan Drive, Suite 108
San Diego, CA 92108
Erin.Neal@dtsc.ca.gov

Zanalee Zmily
Senior Environmental Scientist
Department of Toxic Substances Control
7575 Metropolitan Drive, Suite 108
San Diego, CA 92108
Zanalee.Zmily@dtsc.ca.gov

Re: Chiquita Canyon Landfill Response to April 1, 2025 Summary of Violations

Dear Ms. Neal and Ms. Zmily:

Chiquita Canyon, LLC ("Chiquita") is in receipt of the Summary of Violations ("SOV") for the Chiquita Canyon Landfill ("Landfill") issued by the Department of Toxic Substances Control ("DTSC") on April 1, 2025.[1] Based on the allegations set forth in the SOV, DTSC requested that Chiquita take certain actions and provide certain information within thirty (30) days of the SOV. Other actions and requests for information did not include an explicit deadline. Reserving all its rights and defenses, Chiquita provided interim responses to a portion of SOV Allegation #2A, copies of which are attached hereto as **Attachment 1**, and to a portion of SOV Allegation #2B, copies of which are attached hereto as **Attachment 2**.

As discussed below, Chiquita disputes the allegations set forth in the SOV and requested actions. Chiquita has provided voluminous and timely information about the Landfill to its regulators and continues to do so. Chiquita will continue to cooperate with reasonable requests for information that are within the scope of DTSC's authority and applicable to the Landfill. However, none of

[1] Chiquita Canyon, LLC is the sole owner, operator, and permit holder at Chiquita Canyon Landfill. Chiquita Canyon, Inc. and Waste Connections US, Inc. are not part of the facility name, nor do they manage, direct, or conduct operations at the facility as alleged in the SOV.

the SOV's alleged violations and requested corrective actions are supported by the factual circumstances or the regulatory citations.

Chiquita nevertheless provides the following information in the interest of continued cooperation with its regulators. The information, documents, and attachments provided herein should not be construed as an admission of any factual allegation or legal conclusion in the SOV or an admission of any liability for any matter described in the SOV.

Allegation #1 – Failure to Comply with Land Disposal Restriction Requirements

Summary of DTSC Allegation:

DTSC alleges that Chiquita violated 22 CCR § 66262.17(a)(9) by failing to comply with land disposal restriction ("LDR") requirements with respect to shipments on November 10 and 11, 2024, of three loads of leachate from one of Chiquita's leachate tanks to Red Rock Landfill, located in Arizona, for disposal. In support of this allegation, DTSC asserts that Chiquita sampled Tank #172, but the leachate loads at issue were solidified and disposed of at Red Rock Landfill prior to Chiquita receiving test results. DTSC further alleges that on November 12, 2024, sample results from Tank #172 showed a methyl ethyl ketone ("MEK") concentration of 39 mg/L, in exceedance of the nonwastewater Universal Treatment Standard ("UTS") for MEK of 36 mg/kg. DTSC also alleges that on November 27, 2024, Chiquita sent a notification letter to Red Rock Landfill acknowledging these shipments exceeded the applicable LDR treatment standard for MEK.

Chiquita Response to Allegation:

Chiquita denies that it violated 22 CCR § 66262.17(a)(9) for several reasons.

First, the cited provision does not currently apply to Chiquita (and did not apply at the time of shipments during November 2024). Section 66262.17 sets forth a conditional exemption from permitting requirements for accumulation of hazardous wastes by Large Quantity Generators ("LQGs"). Subsection (a)(9) sets forth one of the "Conditions for [the] Exemption," namely compliance with LDR requirements. However, Chiquita does not currently (and did not in November 2024) need the conditional exemption in Section 66262.17, because it is (and was) exempt from permitting under an entirely different provision, the Immediate Response Exemption of 22 CCR § 66270.1(a)(3)(A). Chiquita has previously explained[2] how it has

[2] Previous explanations of the applicability of the Immediate Response Exemption include, but are not limited to, Chiquita's correspondence to DTSC dated February 14, 2024. See **Attachment 3** for this correspondence. As explained in this correspondence, Chiquita was and is experiencing an Elevated Temperature Landfill ("ETLF") event necessitating an immediate response, including treatment and containment of the on-site leachate. When operating under the Immediate Response Exemption, hazardous waste permitting requirements do not apply due to the emergency situation at hand.

An ETLF event, also referred to as a landfill reaction, is typically characterized by rapid increases in both landfill gas and leachate quantities, which can overwhelm traditionally permitted existing gas and liquids infrastructure.

qualified for the Immediate Response Exemption and incorporates those explanations here by reference. Chiquita is not, in "violation" of a condition for an exemption that it did not need nor had it sought. (*See, e.g.*, 81 Fed. Reg. 85,732, 85,746 (Nov. 28, 2016) ("Generator Improvements Rule") ["Meeting a condition for exemption is required only if the generator wants an exemption, and then is 'required' only in the sense that it is a necessary step to take in order to successfully obtain that optional exemption"]).

Second, Chiquita maintains that it complied with all numeric LDR requirements for the three loads of treated leachate that are the subject of Allegation #1. The facility properly determined that the treated leachate was non-hazardous,[3] and thus could be shipped to a non-hazardous waste landfill, such as the Red Rock Landfill, for treatment and disposal. Chiquita was not required to notify the receiving facility of any underlying hazardous constituents that might have been above Universal Treatment Standards ("UTS"). (*See, e.g.*, 58 Fed. Reg. 48,092, 49,135 (September 14, 1993) ["there is no current requirement that the generator notify a Subtitle D nonhazardous waste treater of the constituents subject to treatment in the waste"]; RCRA Hotline Report (November 2001) (RCRA Online #14585) ["the generator is not required to notify the Subtitle D facility of the constituents subject to treatment"]).

In any event, the Red Rock Landfill facility reportedly solidified the liquid leachate at issue in a tank before land disposing of the waste. (*See, e.g.*, 40 C.F.R. § 258.28(a) [generally prohibiting disposal of bulk or noncontainerized liquids in municipal solid waste landfill]). Such solidification would have reduced the concentration of MEK in the leachate by more than 10%, which is all that would have been necessary to reduce the measured concentration from 39 mg/L to the UTS of 36 mg/kg. The material that was ultimately land disposed (*i.e.*, solidified leachate) therefore met applicable numeric treatment standards. While the Red Rock Landfill does not appear to have verified through testing that the treatment standards were met, it was not required to do so. (*See, e.g.*, 58 Fed. Reg. at 49,135 ["there is no current requirement…for the subtitle D treater to verify compliance with the treatment standards"]; RCRA Online #14585 ["Subtitle D treaters (i.e., treaters of wastes which are no longer hazardous but which require treatment to satisfy LDR treatment standards) are not currently required to verify compliance with treatment standards"]).

Unique changes in the composition of both landfill gas and leachate can also result from an ETLF event. Chiquita has responded to the ETLF event occurring at the Landfill, in consultation with and under the supervision of its regulators, with rapid and robust expansion of its gas and liquids infrastructure.

[3] One of Chiquita's leachate tanks, labeled ECT Tank #172 ("Tank 172"), was sampled on November 2, 2024, and the test results came back on November 4, 2024 showing that the leachate was non-hazardous and met Land Disposal Restriction ("LDR") treatment standards. The contents of this tank were subsequently approved for shipment, and one load on November 6, 2024 and one load on November 7, 2024 were sent to Red Rock Landfill.

Between November 8th and 9th, the now partially-empty Tank 172 was refilled with new leachate. An additional confirmation grab sample was taken on the afternoon of November 9th. On November 10th, two loads were pulled from Tank 172 and sent to Red Rock. Early on November 11th, another load was pulled and sent to Red Rock. On November 12th, the test results from November 9th sample were returned, showing one constituent slightly above the applicable LDR treatment standard (MEK concentration of 39 mg/L), thus indicating that the three loads sent to Red Rock on November 10th and 11th were non-conforming because they were slightly above the relevant non-wastewater standard of 36 mg/kg MEK for LDRs. The leachate was originally hazardous due to benzene, but had been treated to remove that characteristic.

Chiquita verbally informed the Red Rock Landfill on November 15, 2024, about the slightly elevated MEK test result for the treated leachate at issue. As noted in the SOV, Chiquita also sent a follow-up letter to the landfill facility on November 27, 2024, which provided additional background and information about steps the company was taking to prevent similar incidents in the future. However, such communications in no way constituted an admission of any regulatory violations. As the United States Environmental Protection Agency ("EPA") noted when it originally established the LDR requirements for characteristic hazardous wastes, "generators and Subtitle D facilities have substantial incentives (such as CERCLA liability) to exchange information and verify compliance with treatment standards for underlying hazardous constituents *independent of federal notification requirements*." (59 Fed. Reg. 47,980, 48,016 (September 19, 1994) (emphasis added)). Consistent with this, Chiquita conservatively sought to limit liabilities by shipping only leachate that had been measured to have MEK concentrations below the UTS to Red Rock Landfill. The fact that the loads at issue in Allegation #1 did not meet the company's goal did not mean that any regulatory violation occurred.

Summary of DTSC Prescribed Actions:

DTSC directs Chiquita to comply with all applicable requirements for LDRs. The SOV states that Chiquita must provide the lab results for all samples collected from Tank #172 on November 2 and 9, 2024. It further directs Chiquita to provide a written description of the "Tank Release" program and a copy of the Standard Operating Guideline referenced in Chiquita's November 27, 2024 notification letter to Red Rock Landfill.

Chiquita Response to DTSC Prescribed Actions:

The actions prescribed by DTSC with respect to Allegation #1 are without foundation, given that the allegation is without merit, as discussed above. Chiquita will nevertheless continue to comply with applicable requirements and is providing the requested information in the interest of cooperation and transparency.

Following this incident, Chiquita instituted a Tank Release program, which locks the valves on the influent and effluent ends of the tanks according to their stage in the filling, sampling, approval, and disposal process to ensure that once a tank is filled and a sample has been taken, more liquids cannot be added to that tank until that tank has been emptied. During the filling process, the influent valve is opened while the effluent valve remains locked. Once the tank is full and the liquids have been sampled, the influent valve is locked so that liquids can neither enter nor leave the tank. Upon receipt of the sample's analytical results and approval from the disposal facility, the effluent valve is unlocked to allow for loading into trucks. During this loading process, the influent valve remains locked. Once the tank is fully emptied, the effluent valve is locked and the influent valve is unlocked so that the tank is ready to receive liquids again. This process also ensures that only Chiquita employees can control when a tank is filled or emptied.

Lab results for all samples collected from Tank #172 on November 2 and 9, 2024 are attached as **Attachment 4**. A copy of the Standard Operating Guidelines referenced in Chiquita's November 27, 2024 notification letter to Red Rock Landfill is attached as **Attachment 5**.

In sum, Chiquita did not violate 22 CCR § 66262.17(a)(9). Chiquita complied with all numeric LDR requirements for the three loads of treated leachate, and the Red Rock Landfill facility appropriately handled the leachate before disposing of it. Chiquita additionally worked cooperatively and transparently with the Red Rock Landfill facility to ensure that the leachate at issue was handled and disposed of properly. DTSC's Allegation #1 is without merit.

Allegation #2A – Failure to Minimize the Possibility of a Release of Hazardous Waste

Summary of DTSC Allegation:

DTSC asserts that Chiquita violated 22 CCR § 66262.251 by allegedly failing to minimize the possibility of a release of hazardous waste or hazardous waste constituents to air, soil or surface water which could threaten human health or the environment. DTSC lists 42 individual releases that form the basis for this allegation. DTSC additionally claims that Chiquita did not directly notify DTSC of these alleged releases as required per the Summary of Violations issued by DTSC to Chiquita on February 15, 2024.

Chiquita Response to Allegation:

Chiquita denies that it violated 22 CCR § 66262.251, as alleged by DTSC, for several reasons. First, that provision does not currently apply to Chiquita (and did not apply during the time of the individual incidents cited by DTSC). Compliance with Section 66262.251 is a "condition for exemption" from permitting requirements under Section 66262.17, in the same way as the LDR provisions discussed above in the context of Allegation #1. Specifically, Section 66262.17(a)(6) states that one of the conditions for that exemption is that "[t]he large quantity generator complies with the standards in article 9 of this chapter." And, Section 66262.251 is contained in Article 9. EPA has acknowledged that the "minimize release" provision is merely a condition for exemption, stating that "[t]he condition for exemption for LQGs at [40 CFR] § 262.17(a)(6)-(7) [the federal counterpart to 22 CCR § 66262.17(6)] references 40 CFR part 262 subpart M [the federal counterpart to Article 9]." (*See* 81 Fed. Reg. at 85,790). As discussed above with respect to Allegation #1, Chiquita is not (and has not been) required to meet the conditions for the LQG accumulation exemption from permitting set forth at Section 66262.17, because it is already covered by a different permitting exemption, namely the Immediate Response Exemption. Chiquita cannot have "violated" the conditions of an exemption that it did not need.

Second, Chiquita maintains that it nevertheless did comply with Section 66262.251.[4] That provision states, in its entirety, that "[a] large quantity generator shall maintain and operate its facility to

[4] Section 66262.251 was approved by the California Office of Administrative Law ("OAL") on May 6, 2024, with an effective date of July 1, 2024. See OAL Regulatory Action Number: 2024-0322-01S. Accordingly, there could not have been a violation of this specific provision prior to July 1, 2024.

(1) minimize the possibility
(2) of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents
(3) to air, soil, or surface water
(4) which could threaten human health or the environment." (numbering added).

Each of these elements must be evaluated in assessing a potential violation:

- The provision only addresses releases from the "*facility*," which is defined for these purposes as "all contiguous land and structures, other appurtenances, and improvements on the land used for the treatment, transfer, storage, resource recovery, disposal or recycling of *hazardous waste*." (*See* 22 CCR § 66260.10 (emphasis added)). Thus, any releases from non-hazardous waste units are not relevant.
- The LQG is required only to "*minimize the possibility*" of covered releases, not to eliminate them entirely. It is well established that the occurrence of a release does not necessarily indicate that a generator failed to meet this requirement. (*See, e.g., U.S. v. Environmental Waste Control, Inc.*, 710 F. Supp. 1172, 1237 (N.D. Ind. 1989) ("40 C.F.R. § 265.31 [a federal provision with essentially the same language as § 66262.251] …is not violated simply by a sporadic fire. The regulation requires the implementation of procedures designed to minimize fire. The occurrence of a single fire, quickly contained, does not persuade the court that EWC did not implement such procedures"), aff'd, 917 F.2d 327 (7th Cir. 1990); cert. denied, 499 U.S. 975 (1991)).
- The only releases that must be minimized under this provision are releases of "*hazardous waste or hazardous waste constituents*." (*See* 22 CCR § 66262.251 (emphasis added)). Releases of non-hazardous wastes are not relevant under the provision.
- Only releases "*to air, soil, or surface water*" are covered. Indeed, a "release" is defined for these purposes as "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing *into the environment*." (*See* 22 CCR § 66260.10 (emphasis added)). Accordingly, releases that are contained do not implicate Section 66262.151.
- Only releases that could "*threaten human health or the environment*" are addressed by the provision. Thus, very small releases, and even larger releases that are quickly cleaned up, are not covered.

Chiquita has reviewed each of the 42 incidents referenced by DTSC in SOV Exhibit C, in light of the limited nature of § 66262.251, notwithstanding the fact that the Immediate Response Exemption applies to each incident. All of these incidents are also outside the scope of the provision for one or more of the following reasons:

(1) The release did not involve hazardous material;
(2) The release involved a small volume of material and therefore posed no significant threat to human health or safety, or the environment;
(3) The release was promptly contained and therefore did not constitute a release into the environment;
(4) The release did not exit a "facility" within the definition of that term;

(5) The release did not leave secondary containment and therefore posed no significant threat to human health or safety, or the environment and did not constitute a release into the environment.

The reasons described above, as well as the reasoning explained in Chiquita's March 15, 2024 response to DTSC's February 15, 2024 SOV, all support the appropriateness of Chiquita's current release reporting approach. DTSC requested in its February 15, 2024 SOV that "Chiquita Canyon, LLC…document and report all releases of hazardous waste to DTSC." Consistent with Chiquita's response to the February 15, 2024 SOV, Chiquita has and will continue to document and report to DTSC all releases required to be documented and reported under applicable laws and regulations. There have been no instances of a release of hazardous waste at the site that were required, under applicable laws and regulation, to be reported directly to DTSC since the February 15, 2024 SOV. Any releases requiring reporting were reported to the relevant agencies pursuant to Chiquita's release reporting approach, as supported by the Immediate Response Exemption and applicable law.

Moreover, to the extent that any of the incidents could potentially be deemed to be releases of the type addressed by § 66262.251, such incidents would have been isolated and would not negate the fact that Chiquita has implemented numerous procedures designed to minimize releases—which, as noted above, is all that the provision requires.

Since January 2024, dedicated staff members have conducted inspections for the presence of leachate seeps and pooling in the Reaction Area and stormwater channels pursuant to Condition 27(b) of the Stipulated Order for Abatement in Case No. 6177-4 ("SOFA"), issued by the South Coast Air Quality Management District ("South Coast AQMD"). These inspections have been documented and reported to the South Coast AQMD on a weekly and monthly basis, as required by SOFA Condition 27(c) and Condition 8(q)(iii). In the event a seep or pooling occurs, Chiquita immediately collects and contains any standing liquids in a sealed tanker trunk or leachate tank or redirects the liquid into the leachate collection system, in accordance with SOFA Condition 24. Chiquita also reports incidents in which liquid leaves the Landfill's footprint to the Los Angeles Regional Water Quality Control Board (the "Water Board") pursuant to Chiquita's Waste Discharge Requirements ("WDRs"). In response to the Unilateral Administrative Order ("UAO"), issued by EPA on February 21, 2024, Chiquita has also developed a Leachate Management Plan ("LMP"), which identifies practices to implement in the event a seep is discovered. Some measures outlined in the LMP include constructing containment structures to prevent leachate from traveling, ensuring the availability of cleaning equipment (e.g., vacuum trucks), and continued monitoring to prevent reoccurrence.

To decrease and combat seeps at the Landfill, Chiquita completed the West Slope Toe Drain Installation Project and North Slope Termination Project to better mitigate leachate seepage. As part of the projects, Chiquita installed a new toe drain and removed and replaced the temporary scrim liner that covered the area with 30-mil geomembrane liner. Since completing the projects earlier this year, Chiquita has seen a significant decrease in seeps. As of the date of this response, the last seep occurred on February 9, 2025.

Additionally, as of August 28, 2024, under SOFA Condition 27(e), Chiquita is required to report the occurrence of leachate spills or leaks to South Coast AQMD. The majority of spills and leaks are mitigated on the day they occur. On October 18, 2024, pursuant to SOFA Condition 27(f), Chiquita developed Standard Operating Procedures ("SOPs") for leachate tank operations in accordance with industry standards and best management practices. These SOPs outline procedures for tank filling and tank inspections conducted by Chiquita personnel, and establish leachate transfer guidelines. While these SOPs have not yet been approved by South Coast AQMD, Chiquita has proactively been implementing the SOPs to minimize potential spills and leaks. In addition to these SOPs, Chiquita has implemented additional best management practices to decrease the risk of spills and leaks. Examples of these measures include a valve tagging system, additional equipment inspections, and further training to Chiquita personnel. Since the implementation of the SOPs and additional efforts by Chiquita, the amount of liquid spilled or leaked has been trending downward. Chiquita also continues to expand its dewatering efforts to remove liquids from the Landfill pursuant to SOFA Conditions 17 and 18.

The efficacy of these procedures is demonstrated by the fact that the total volume of material involved in the incidents mentioned by DTSC is less than 0.01% of the total volume of leachate managed during the course of the 14-month period over which such incidents occurred.[5]

In sum, the "minimize release" provision in § 66262.251 does not currently apply to Chiquita (and has not applied throughout the period covered by DTSC's allegation), because it is a condition for an exemption that the facility does not currently need (and has not needed during the relevant period). Chiquita nevertheless has satisfied the requirement to minimize releases. Accordingly, DTSC's Allegation #2A is without merit.

Summary of DTSC Prescribed Actions:

(i) DTSC states that Chiquita must operate its facility in a manner that minimizes the possibility of a sudden or non-sudden release of hazardous waste or hazardous waste constituents.

(ii) DTSC further requests that Chiquita, within 72 hours of each and every release, send a Release Notification to DTSC, including the substance involved, the date and time of the release, the grid location and coordinates of the release, a detailed description of the release source (including, if applicable, tank number, tank train identification, dewatering bin identification, or well number), the cause of the release, the volume of the release, the duration of presence of the release, the waste determination of the release and any contaminated material that results from the mitigation of the release, sampling results (if applicable), photographs of the release, list of agencies notified of the release, and corrective actions taken, including the on-site disposition

[5] The total estimated volume of leachate, in gallons, implicated by the 42 incidents listed in SOV Exhibit C is 6,427.5 gallons. This number utilizes the upper gallon limit reported when a gallon range was provided. From January 1, 2024 through March 16, 2025, roughly the same time period that the 42 incidents span, Chiquita estimates that it collected approximately 80,546,843 million gallons of leachate at the landfill. 6,427.5 is 0.00797982858% of 80,546,843 million gallons. This percentage would be lower if only relevant incidents were taken into account.

and intended final destination of all recovered material and/or waste, and any contaminated media (i.e., tank farm number, train identification, tank number, grid number, and roll-off bin).

(iii) DTSC directs that all sample results for releases shall be sent to the Department within 48 hours of Chiquita's receipt of laboratory reports.

(iv) DTSC directs Chiquita, within 30 days of the SOV, to provide complete Release Notifications for each release listed in SOV Exhibit C (to the extent this information was not previously included in the reports posted on Chiquita's website or on the CalOES Spill Release Reporting Dashboard).

(v) DTSC directs Chiquita, within 30 days of the SOV, to provide a written explanation of mitigation measures taken to prevent future releases, any additional mitigation measures currently planned to address releases, and any plan for future mitigation measures should the prior or currently planned mitigation measures prove ineffective at minimizing releases.

Chiquita Response to DTSC Prescribed Actions:

The actions prescribed by DTSC with respect to Allegation #2A are without foundation, given that the allegation is without merit, as discussed above. Nevertheless, in the interest of cooperation and transparency, Chiquita also addresses each of DTSC's prescribed actions, as outlined below.

(i) As described in detail above, Chiquita has implemented and will continue to implement procedures designed to minimize the possibility of a sudden or non-sudden release of hazardous waste or hazardous waste constituents from the facility into air, soil, or surface water that could threaten human health or the environment.

(ii) As DTSC is aware, Chiquita is subject to numerous release reporting requirements from several agencies. Under SOFA Condition 27(e), Chiquita reports to South Coast AQMD each leachate spill or leak within 48 hours of discovery. Under SOFA Condition 27(c), Chiquita also summarizes to South Coast AQMD on a weekly basis any leachate seep that occurred during the previous week. Under Chiquita's WDRs, Chiquita must also report to the Water Board within 24 hours of any leachate seep from the landfill, and provide a follow-up report within 7 days.

These existing reporting requirements from South Coast AQMD and the Water Board already meet DTSC's request that regulators be notified of releases within 72 hours. In the spirit of cooperation and transparency, Chiquita has been providing courtesy copies of these reports to DTSC via email since receiving the SOV. Chiquita is willing to continue this practice. These reports contain most of the information that DTSC requests be included in its "Release Notifications." The additional information DTSC requests is not feasible to provide or would be burdensome to include, as the information may not be collected in the first place. If DTSC nevertheless believes that additional information pertaining to future releases is necessary, Chiquita would appreciate the opportunity to discuss a reasonable approach. As currently

described in DTSC's SOV, imposing additional reporting requirements with additional data elements is unduly burdensome and has the potential to distract from effective release response.

(iii) Chiquita is unaware of the basis for this request, as no citation has been provided. Chiquita does not sample releases. Sampling a release would prevent Chiquita from immediately cleaning it up, which is required by the South Coast AQMD Stipulated Order. Any standing liquid from a release is collected and contained. Leachate is ultimately sampled prior to being shipped offsite.

(iv) Preparing additional Release Notifications for all 42 incidents listed in SOV Exhibit C would be duplicative of the notifications already provided, and would unnecessarily divert resources from ongoing operational and compliance activities. It would also be unreasonably burdensome to require Chiquita to reinvestigate previously noticed incidents, some of which are more than a year old. Chiquita does not track all of the information DTSC has requested, and this information cannot be readily reconstructed for incidents that occurred in the past. The information already contained within the reports for the 42 incidents should be sufficient for DTSC's enforcement and compliance purposes and is readily available on Chiquita's website, which includes download links to all 42 reports, and in the CalOES Spill Release Reporting Dashboard (where applicable), all of which is already available for DTSC's review. For DTSC's convenience, Chiquita provides the relevant reports for all 42 incidents referenced in SOV Exhibit C in **Attachment 6**.[6] If DTSC nevertheless believes that additional information pertaining to these 42 incidents is needed, Chiquita would appreciate the opportunity to discuss a reasonable approach.

(v) Chiquita has updated the design of its leachate management system, which has been described in detail in the LMP and related updates. These design updates include, but are not limited to, the west slope excavation project and redirection of leachate, as described above. Chiquita has also developed several SOPs for managing hazardous leachate and minimizing releases, including a Tank Inspection SOP, a Leachate Transfers by Truck SOP, and a Leachate Transfers by Pump SOP. Together, these SOPs require Chiquita personnel to take significant measures to prevent releases. These measures include: performing an inspection of each leachate tank as required by the specific tank's requirements, ensuring that each tank has available freeboard for the authorized liquids, visually inspecting tanks to confirm there is no visible physical damage prior to transfer, determining the expected fill time, monitoring the sight glass on front of tanks to ensure filling does not surpass tank capacity (if applicable), verifying which truck is authorized to load and directing drivers to the appropriate loading position, and visually inspecting the tank and area to make sure there were no spills during and after transfer.[7] Chiquita added employees and shifted responsibilities from contractors to employees where possible, to

[6] DTSC alleges an incident involving an "unknown" amount of liquid from a condensate tank in Count 41. Chiquita has not immediately identified any reports that match DTSC's incident description for this Count. If DTSC has additional information pertaining to this incident, please let Chiquita know so that the appropriate report can be identified.

[7] Chiquita submitted the Tank Inspection SOP, the Leachate Transfers by Truck SOP, and the Leachate Transfers by Pump SOP to South Coast AQMD on October 14, 2024. South Coast AQMD has not yet provided comments on the SOPs, but Chiquita has been proactively implementing them as part of its regular protocol to minimize releases.

further improve the processes. Chiquita also provides training to employees who are handling leachate, which is refreshed as needed.

Additionally, new SOFA Condition 93 requires Chiquita to install hydrostatic liquid level transmitters in all leachate storage tanks capable of having such transmitters installed to measure the level of liquids within the tanks, and for Chiquita personnel to monitor and communicate tank level information to necessary personnel involved before and during tank filling operations. These measuring and monitoring requirements will further minimize the potential for releases.

In sum, Chiquita did not violate 22 CCR § 66262.251. Chiquita has implemented numerous actions, precautions, analysis, and measures to minimize the potential for releases, which obviate the need to provide additional information for the incidents described in SOV Exhibit C, in addition to being an unduly burdensome endeavor. If DTSC nevertheless believes that all of the actions, precautions, analysis, and measures already in place are insufficient, Chiquita will make itself available to discuss DTSC's requests.

Allegation #2B – Failure to Minimize the Possibility of a Release of Hazardous Waste

Summary of DTSC Allegation:

DTSC alleges that, beginning "on or before" February 17, 2025, Chiquita violated the "minimize release" provision in 22 CCR § 66262.251 by treating and/or storing hazardous waste leachate, leachate that has been treated below hazardous waste regulatory thresholds, and condensate in Tank Farm #9 when settlement has allegedly started to occur "adjacent to" or "around" the tank farm. According to the SOV, "[s]ignificant" settlement "may have" a negative impact on the integrity and/or stability of the tanks and their associated ancillary equipment, which "could" result in hazardous waste leachate releases.

Chiquita Response to Allegation:

Chiquita denies that it has been or is currently violating 22 CCR § 66262.251, as alleged by DTSC, for several reasons.

First, as explained above in the discussion of Allegation #2A, the "minimize release" provision in § 66262.251 does not currently apply to Chiquita. Instead, it is a condition for a permitting exemption that the facility does not currently need, because the facility is currently operating under a different permitting exemption, namely the Immediate Response Exemption. Chiquita cannot be in "violation" of a condition for an exemption that it does not need.

Second, as also discussed above in the context of Allegation #2A, Section 66262.251 addresses only releases of hazardous wastes and hazardous waste constituents from the "facility," defined as the units that manage *hazardous* wastes. To the extent that Allegation #2B is alleging that Chiquita violated § 66262.251 by failing to minimize the potential for releases from non-hazardous waste tanks or associated ancillary equipment (*e.g.*, tanks or equipment containing

leachate that has been treated below hazardous waste regulatory thresholds), such an allegation cannot be sustained.

Third, DTSC's suggestion that current conditions in Tank Farm #9 may jeopardize the integrity of the tank system and result in hazardous waste releases is purely speculative and therefore an insufficient basis for an allegation of a violation of § 66262.251. As discussed above in the context of Allegation #2A, a single release (or even potentially more than one) is not sufficient to demonstrate that a facility has failed to meet the "minimize release" standard. However, DTSC is now claiming the standard is not met when there is merely (in DTSC's view) a theoretical possibility that nearby settling could be substantial enough (and presumably sudden enough) to undermine the integrity of the tanks and result in a release that could threaten human health or the environment, at some unspecified point of time in the future. This is simply not what § 66262.251 requires (even if it applied to the Chiquita facility, which it does not, as discussed above).

Finally, Chiquita disputes that current conditions at Tank Farm #9, in fact, present the types of risks that DTSC claims. While some cracks or fissures have been found nearby, most appear to be the result of minor and gradual settling due to the slow compaction of buried wastes in the underlying landfill, not a major void underground nor one created by rapid thermal breakdown of buried waste due to expansion of the elevated temperature event into the area under Tank Farm #9. Chiquita has addressed (and intends to continue addressing) cracks and fissures in that area and elsewhere in and around the reaction area in a timely and effective manner, by adding cover soil and re-grading, as necessary. The cracks identified in grid 148 in the vicinity of Tank Farm #9 were repaired by placing soil and track-walking over the cracks and have not reappeared. If the reaction was underneath the tank farm and causing this degradation, the cracks would be expected to promptly reappear. Chiquita also inspects the tank system daily for evidence of leaks or conditions that could result in the development of leaks. To date, no leaks resulting from settling of the tanks at Tank Farm #9 have ever been observed.

While Chiquita disagrees with the underlying rationale, Chiquita nevertheless agrees that the tank farm should be relocated. Chiquita therefore intends to comply with the requirement to relocate the leachate storage tanks within Tank Farm #9 from the "top deck" to a stable location within the Landfill. As Chiquita's regulators, including DTSC, are aware, Chiquita has been diligently planning an effective and safe relocation of Tank Farm 9 since July 2024.[8] Since then, Chiquita has regularly discussed and actively planned the installation with LA County Fire, the Certified Unified Program ("CUPA") Agency, as well as DTSC, EPA, CalEPA, and other MCAT agencies.[9]

Chiquita also disagrees with the conclusions in Dr. Stark's Technical Memorandum that DTSC cites in the SOV. DTSC references elevated temperatures of 185°F to 189°F in the area around the tank farm. However, these temperatures are in situ waste temperatures, not wellhead temperatures. Wellhead temperatures are regulated by the EPA through New Source

[8] *See* 2024-07-19 Email Correspondence to LA County Fire, provided in **Attachment 7**.
[9] *See* Compilation of Email Correspondence between Chiquita and LA County Fire and EPA re Tank Farm Relocation, provided in **Attachment 8**.

Performance Standards ("NSPS"), which establish a temperature threshold of 145°F (62°C) for gas measured at the wellhead. Wellheads are compliant if their temperature is below that temperature. Published studies have found that in situ waste temperatures can be 68°F (20°C) hotter than wellhead temperatures. Thus, in situ temperatures of 185°F to 189°F do not necessarily indicate that the gas wellhead temperatures are above EPA's NSPS threshold of 145°F and therefore do not necessarily indicate a reaction.

Further, temperature alone cannot be used as the basis for determining the boundaries of the reaction. (*See* South Coast AQMD SOFA Condition 9 [describing the reaction area boundary determination criteria]). Dr. Stark's report focuses primarily on temperature. In contrast, Chiquita's constant data monitoring evaluates all the potential indicators of a reaction, including but not limited to settlement, gas composition, and temperature both in situ and at the wellhead. When looking at the data as a whole, including cracks identified in the area of the tank farm, Chiquita's experts have determined that the reaction has not spread to this area. Other data points considered include gas composition of nearby wells, wellhead temperature, and actual settlement strain rate as opposed to the presence of cracks in the cover. Cracks in landfill cover are common at all landfills due to typical settlement and loading at the top of the landfill from vehicle movement. Settlement over the past two years in the area of Tank Farm #9 is typical of a deep landfill with liquids extraction and does not show accelerated settlement as seen within the reaction area. Gas composition of wells near and to the east of Tank Farm #9 show typical landfill methane with less than 2 percent hydrogen and 1,500 ppm of carbon monoxide, indicating no reaction presence.[10]

As described above, Chiquita constantly evaluates numerous datapoints throughout the Landfill for signs of a reaction, as documented, for example, in its monthly reaction area determinations submitted under Condition 9 of the South Coast AQMD Stipulated Order. Chiquita will have ample time to take any additional steps that might be necessary, if any risks increase materially. The actions, precautions, analysis, and measures described above are precisely the types of procedures that are envisioned under § 66262.251 as minimizing the potential for releases. *See, e.g.*, *U.S. v. Environmental Waste Control, Inc.*, 710 F. Supp. at 1237 ("40 C.F.R. § 265.31 [a federal provision with essentially the same language as § 66262.251] … requires the implementation of *procedures* designed to minimize fire [or releases]" (emphasis added)).

Summary of DTSC Prescribed Actions:

(i) DTSC states that Chiquita must operate its facility in a manner that minimizes the possibility of a sudden or non-sudden release of hazardous waste or hazardous waste constituents.

(ii) DTSC directs that Chiquita must not treat or store hazardous waste leachate, treated leachate, or hazardous waste condensate in areas that are impacted, or have the potential to be

[10] CalRecycle and the Local Enforcement Agency mandated that two additional data points, hydrogen concentrations of less than 2 percent and carbon monoxide concentrations of less than 1,500 ppm, be considered as additional gas concentration data points to determine threshold criteria limits for evaluating the scope of the reaction.

impacted by, significant settlement or high subsurface temperatures which reasonably could result in significant settlement.

(iii) The Department requests that all tanks and ancillary equipment involved in the treatment and storage of hazardous waste or hazardous waste constituents be managed properly to prevent the possibility of a release.

(iv) DTSC requests that, within 30 days of the SOV, Chiquita provide a written statement, including photographs, documenting how the facility has "returned to compliance."

(v) The Department specifies that Chiquita must consider CalEPA's criteria provided on March 6, 2025 when relocating leachate and condensate tanks, and must notify DTSC in writing in advance of all leachate and condensate tank movements.

(vi) DTSC requests that Chiquita provide up-to-date, annotated landfill maps of leachate or condensate collection, treatment, and storage areas, and specifies that these maps must include accurate and current labeling of tank numbers, well heads, and piping. DTSC also specifies that the maps must accurately designate which tanks hold hazardous and treated leachate and/or condensate, as well as the associated leachate train of origin.

(vii) DTSC requests Chiquita to send isopach maps, landfill settlement maps, and maximum vertical temperature maps from temperatures probes on a weekly basis to the Department.

Chiquita Response to DTSC Prescribed Actions:

The actions prescribed by DTSC with respect to Allegation #2B are without foundation, given that the underlying allegations are without merit, as discussed above. Nevertheless, in the interest of cooperation and transparency, Chiquita addresses each of DTSC's prescribed actions, as outlined below.

(i) As noted above in the context of Allegation #2A, Chiquita has implemented and will continue to implement procedures designed to minimize the possibility of a sudden or non-sudden release of hazardous waste or hazardous waste constituents from the facility into air, soil, or surface water that could threaten human health or the environment, thereby meeting the "minimize release" standard of § 66262.251 (even though that standard is not currently applicable to the facility).

(ii) Chiquita cannot agree to a vague and overbroad commitment to not manage hazardous waste leachate, treated leachate, or hazardous waste condensate in "areas" that are "impacted," or have the "potential" to be impacted, by "significant" settlement or "high" subsurface temperatures which reasonably could result in "significant" settlement. As discussed above, these conditions as described do not exist in the Tank Farm #9 area and Chiquita's efforts to minimize potential impact are reasonable, including daily inspections and promptly addressing any issue identified. Further, as discussed above, Chiquita has been trying to move Tank Farm #9 since July 2024, but has been unable to do so because of regulatory hurdles. Now, Chiquita has

been directed to draft and implement a Removal Action Workplan ("RAW") under DTSC's Imminent and Substantial Endangerment Determination and Order ("DTSC Order"), Docket No. HSA-FY24/25-082, issued on April 2, 2025 that moves the tank system in Tank Farm #9 from its current location to an interim location. Chiquita assumes that moving the tank farm in compliance with the RAW approved by DTSC will be sufficient for compliance with this prescribed action.

(iii) As noted above, even though Chiquita is not currently subject to the "minimize release" requirement of § 66262.251, it has been (and intends to continue) implementing procedures designed to minimize the possibility of a release of hazardous waste or hazardous waste constituents from the facility—including all hazardous waste tanks and their ancillary equipment—into air, soil, or surface water that could threaten human health or the environment.

(iv) The facility has not been out of compliance with the "minimize release" requirement of § 66262.251. Section 66262.251 is not currently applicable to the facility, and in any event, the facility has met and continues to meet the standard set forth in that provision. There is therefore no need for a written statement documenting how the facility has "returned to compliance." Even if Chiquita were subject to this requirement, DTSC's request to provide by May 1, 2025 a written statement documenting how the facility has "returned to compliance" is inconsistent with the RAW required under the DTSC Order to relocate Tank Farm #9. Chiquita has been given until May 9, 2025[11] to submit a draft RAW detailing the interim relocation of Tank Farm #9. These two deadlines conflict, as Chiquita cannot move Tank Farm #9 by May 1, 2025 if a draft RAW detailing the relocation of Tank Farm #9 is not due pursuant to the DTSC Order until May 9, 2025 and then subject to DTSC approval.

(v) Chiquita has been considering CalEPA's criteria provided on March 6, 2025 as it works to relocate leachate and condensate tanks. Chiquita is also submitting to DTSC a draft RAW detailing the interim relocation of Tank Farm #9 on May 9, 2025, subject to DTSC approval. Chiquita cannot, however, commit to notifying DTSC in writing of all leachate and condensate tank movement, as situations may arise requiring leachate or condensate tank movement that precludes the facility's ability to notify DTSC in writing in advance. Nevertheless, Chiquita will notify DTSC in writing of anticipated, significant movements, including the interim relocation of Tank Farm #9 under the RAW.

(vi) The current location of Tank Farm #9 is not in violation of the requirement to minimize the possibility of a release, for the reasons described herein, and therefore Chiquita is already in compliance. Chiquita nevertheless provides up-to-date, annotated landfill maps of leachate or condensate collection, treatment, and storage areas as **Attachment 9**. Chiquita prepares monthly maps of the leachate tanks and manifolds for South Coast AQMD under SOFA Condition 38, which are available on Chiquita's Odor Mitigation webpage.[12] If DTSC believes additional detail

[11] On April 22, 2025, Chiquita formally requested an extension to submit the draft RAW for Tank Farm #9 to May 9, 2025. DTSC confirmed approval in writing on April 26, 2025.
[12] Chiquita's Odor Mitigation webpage is accessible at https://chiquitacanyon.com/odor-mitigation/. From there, click on the "Stipulated Order for Abatement" tile. To locate the monthly tank farm maps, expand the "South Coast

beyond the maps prepared under the SOFA is necessary going forward, Chiquita would appreciate the opportunity to discuss a reasonable approach.

(vii) As noted in Chiquita's interim responses to this request, Chiquita currently prepares and submits to the LEA the requested maps on the following schedule: isopach maps quarterly, settlement maps bi-monthly, and maximum vertical temperature maps weekly and monthly. Providing isopach maps at the requested weekly frequency would be unduly burdensome. The isopach maps are created on a quarterly basis by comparing two profiles, which are not available for comparison on a more frequent basis than what is already utilized, as previously discussed with the LEA. Like the isopach maps, providing settlement maps at the requested weekly frequency would be unduly burdensome, as the settlement maps are created by comparing the flyover data and imagery collected via drone every two weeks. Chiquita therefore cannot provide the requested isopach maps or settlement maps on a weekly basis. All three requested maps are available on Chiquita's Odor Mitigation webpage as they become available.[13]

In sum, Chiquita did not violate 22 CCR § 66262.251. Chiquita has been working diligently to minimize the potential for releases, despite regulatory hurdles, and will continue to do so.

Other DTSC Issues/Concerns

In Section II of the SOV, DTSC lists five additional areas of concern identified during its investigation. Each area is discussed separately below.

Issue/Concern 1 – Notification to DTSC of Releases that May Have Involved Hazardous Waste

Chiquita Response:

It does not appear that DTSC is alleging a violation with respect to "Issue/Concern 1," and Chiquita disputes any suggestion that there is an associated issue or concern. Chiquita agrees that there has been no violation with respect to this identified "issue/concern," as explained above under Allegation #2A. Chiquita will continue documenting and reporting to DTSC all releases required to be documented and reported under applicable laws and regulations. As described above under Allegation #2A, Chiquita is also willing to provide a courtesy copy to DTSC of its reports via email to the South Coast AQMD pursuant to Conditions 27(c) and 27(e) of the Stipulated Order and to the Water Board pursuant to Chiquita's WDRs, in its ongoing spirit of

AQMD" tile and look under "Monthly leachate sampling results submitted pursuant to Condition 38 of the Stipulated Order."

[13] Chiquita's Odor Mitigation webpage is accessible at https://chiquitacanyon.com/odor-mitigation/. From there, click on the "Stipulated Order for Abatement" tile. To locate the quarterly isopach maps and the bi-monthly settlement maps, expand the "Local Enforcement Agency" tile and look under "Weekly updates on cover issues in accordance with Milestone 2B." The weekly and monthly maximum vertical temperature maps are also located under the "Local Enforcement Agency" tile under "Weekly submittals of all temperature monitoring probe data in accordance with Mitigation 1B."

cooperation and transparency. These copies should not be construed as an admission that the reports are statutorily or regulatorily required.

DTSC's request to provide Release Notifications "for each individual incident listed in Exhibit E 1 through 96 attached and all releases to-date that are not listed in either Exhibit C or Exhibit E" is unduly burdensome and unreasonable for the reasons provided above under Allegation #2A.

With respect to any remaining incidents that are not listed in either SOV Exhibit C or SOV Exhibit E for which DTSC requests Release Notifications, DTSC already has ready access to any such incidents via Chiquita's website and the CalOES Spill Release Reporting Dashboard, which contain much of the requested information for each incident.

Issue/Concern 2 – Safety Data Sheet, Description, and Sample Results Associated with July 22, 2024 Incident

Chiquita Response:

It does not appear that DTSC is alleging a violation with respect to "Issue/Concern 2," and Chiquita disputes any suggestion that there is an associated issue or concern regarding the July 22, 2024 incident. Chiquita nevertheless provides the requested information relating to this incident. Chiquita's understanding of the incident, as reported by Clean Harbors, is as follows:

On Monday, July 22, 2024, at approximately 12:09 p.m. PST, a Clean Harbors employee was unloading a 275-gallon tote of 50 percent water and sodium hydroxide solution from an 18-wheel, flatbed truck to an approved secondary containment zone. The driver was utilizing a spotter to provide visibility and direction from outside the operating forklift. While the driver was in transit from the truck to the secondary containment, the tote bounced off the forks, fell from two to three feet height, and the top of the tote broke open and released approximately 200 gallons of the solution to the compacted earthen road. The driver contacted his supervisor, who alerted onsite personnel. Clean Harbors and Chiquita personnel used absorbent material to create a short berm around the impacted area, then deployed additional absorbent and clean soil to allow the solution to be absorbed, collected, and deposited in a clean roll off container. The area was scraped down until the soil ceased showing liquid impacts. All impacted soil was deposited into a 20 yard roll off container and tested for appropriate disposal, the results of which are provided in **Attachment 10**.

If Chiquita identifies or receives additional information regarding the final destination of the impacted soil and other media, Chiquita will supplement its response.

Issue/Concern 3 – Description, Cleanup Actions, and Final Destination of Impacted Media Associated with June 19, 2024 Incident

Chiquita Response:

It does not appear that DTSC is alleging a violation with respect to "Issue/Concern 3," and Chiquita disputes any suggestion that there is an associated issue or concern regarding the June 19, 2024 incident. The incident did not involve Chiquita personnel and did not occur at the Landfill; rather, the incident involved a third-party trailer and an off-site spill on Highway 126.

Issue/Concern 4 – Authorization to Treat Hazardous Waste Leachate On-Site

Chiquita Response:

It does not appear that DTSC is alleging a violation with respect to "Issue/Concern 4," and Chiquita disputes any suggestion that there is an associated issue or concern.

Chiquita continues to operate under the Immediate Response Exemption. Chiquita repeatedly has provided DTSC sufficient information to support the continued use of this exemption, as discussed above in footnote 2. If DTSC believes it needs additional information in this regard, Chiquta requests that DTSC state what specific additional information it believes is necessary.

As the SOV acknowledges, and as previously discussed, Chiquita has been actively working toward obtaining the appropriate authorization to treat hazardous waste leachate on-site. Chiquita intends to continue with these efforts as expeditiously as possible, pursuant to the DTSC-approved RAW timeline pertaining to the relocation of Tank Farm #9 under the DTSC Order, subject to any delays resulting from reviews by the relevant regulatory agencies involved.

Issue/Concern 5 – Current Waste Determination Information for all Leachate Waste Generated at the Facility

Chiquita Response:

It does not appear that DTSC is alleging a violation with respect to "Issue/Concern 5," and Chiquita disputes any suggestion that there is an associated issue or concern. Nevertheless, Chiquita provides the requested current waste determination information for all leachate waste generated at the facility in **Attachment 11**. The waste determinations are made at the point of generation for each leachate group, before any treatment or alteration of the waste occurs. Waste characterization sampling ports have been installed for the Group A, Group B, and Group C wells along the leachate management system's force mains after the wellheads and before the leachate enters the accumulation tanks that hold the leachate prior to treatment. Samples of the leachate from the #2 East Perimeter and #6 North Perimeter wells are collected from sample ports attached at the respective force main manifolds which connect to the designated accumulation frac tanks, which hold the leachate prior to trucking to Tank Farm #9 for treatment. There have been no significant changes to the leachate generation process. The waste

determinations, as well as the analytical results for treated leachate, determine the appropriate management and final disposition of the waste. These determinations have been conducted and continue to be in accordance with the criteria set forth in Title 22 of the California Code of Regulations (22 CCR), specifically section 66262.11. We remain committed to maintaining compliance with all applicable regulations and will continue to review and update our waste determinations as needed.

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As noted above, Chiquita is providing this information in the interest of continued cooperation with its regulators. The information, documents, and attachments provided herein should not be construed as an admission of any factual allegation or legal conclusion in the SOV or an admission of any liability for any matter described in the SOV. Chiquita remains available to discuss these issues as needed. Please contact me if you have any questions.

Regards,

Steven J Cassulo

Steve Cassulo
District Manager
Chiquita Canyon, LLC

Enclosures

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