



FINAL RECLAMATION COMPLETE

WGR HALLMARK 1-32

OCCIDENTAL PETROLEUM CORPORATION

LA PLATA COUNTY, COLORADO

INTRODUCTION

Occidental Petroleum Corporation (Oxy) is notifying the Colorado Energy & Carbon Management Commission (ECMC) that the WGR Hallmark 1-32 well pad (Location ID 385867) has met final reclamation criteria, pursuant to Rule 1004. This reclamation assessment accompanies an ECMC Form 4 Sundry Notice requesting final site closure.

RECLAMATION SUMMARY

WSP USA Inc. (WSP) has conducted reclamation monitoring on behalf of Oxy for the location since the site was recontoured and reseeded in May 2019. Bi-annual noxious weed treatments have been conducted since that time as well.

Transect data were used to calculate the vegetation percent cover. The table below provides a summary of percent cover results from each transect and comparisons between onsite and offsite vegetative cover.

Cover Type	Onsite #1/Offsite#1	Onsite #2/Offsite #1	Average Onsite / Offsite #1
Foliar Cover	58% / 60% = 96%	48% / 60% = 80%	53% / 60% = 88%
Bare Ground	22% / 29% = 76%	25% / 29% = 86%	23.5% / 29% = 81%
Basal Cover	3% / 1% = 300%	6% / 1% = 600%	4.5% / 1% = 450%

A comparison between average onsite and offsite vegetation indicates that the onsite vegetative foliar cover is approximately 88% relative to the surrounding area. This location is located within a fragment of a two-needle piñon (*Pinus edulis*) – Utah juniper (*Juniperus osteosperma*) woodland intermixed with open savannas with a significant shrub component, primarily big sagebrush (*Artemisia tridentata*). As is typical in the region, the location was seeded with a grass- and forb-dominant seed mix to stabilize the soil against erosion and encourage the establishment of desirable ground cover to compete with invasive species that tend to dominate disturbed areas. The access road is not part of the reclamation area. The two-track road is intact and useable and is not an improved surface.

FINAL RECLAMATION SUCCESS STANDARDS

The location has met Rule 1004 final reclamation success standards, based on the following observations:

- Noxious, invasive, and undesirable species have been controlled to levels that are comparable with the surrounding area. Bi-annual, targeted chemical weed treatment will continue until ECMC confirms the final reclamation status. Weed control measures are in compliance with the Colorado Noxious Weed Act, C.R.S. §35-5.5-115.
- All trash, debris, and equipment have been removed from the location.
- The location has been successfully stabilized, and all temporary stormwater control measures have been removed (i.e., straw wattles and stakes).

See below for line-point-intercept transect data results, reclamation map, and reclamation photo log.

LINE-POINT INTERCEPT DATA FORM

Shaded cells contain calculations

Plot: WGR Hallmark 1-32 Line #: Onsite 1 Observer: Brackett Mays Recorder: Olivia Drukker

Direction: 345° Date: 7/25/23 Intercept (point) Spacing Interval: 12 IN

Point #	Top Layer	Lower Layers			Soil Surface	Point #	Top Layer	Lower Layers			Soil Surface
		Code 1	Code 2	Code 3				Code 1	Code 2	Code 3	
1				HL	S	26	ELTR7	SATR			S
2					S	27					S
3					S	28	SATR				S
4	BRIN2			HL	S	29	ELTR7	SATR			S
5	BRIN2			HL	S	30	ELTR7				S
6	BRIN2				S	31	ACHY	ELTR7			S
7	PASM			HL	S	32	ELTR7				S
8					S	33					S
9	PASM				S	34	PASM				S
10	PASM				S	35	PASM				S
11	PASM			HL	S	36					S
12				HL	S	37					S
13	ACHY			HL	S	38	ELTR7				S
14	ACHY				ACHY	39	ELTR7	ACHY		HL	S
15	ACHY				S	40	ACHY			HL	S
16	PASM			HL	S	41	SATR				S
17					S	42	BRIN2			HL	S
18					S	43	BRIN2	SATR			S
19	ACHY				S	44	BRIN2				S
20	PASM			HL	S	45	ELTR7	PASM			S
21	PASM			HL	S	46	PASM				S
22				HL	S	47	ELTR7			HL	S
23	ACHY				S	48	ELTR7	PASM			S
24					S	49	PASM			HL	S
25	ELTR7	SATR			S	50	HOJU			HL	S

Top layer codes: Species code, common name, or NONE (no cover).

Lower layer codes: Species code, common name, L (herbacious litter), WL (woody litter, >5mm [~1/4 in] diameter).

Unknown species codes:

AF# = Annual Forb
 PF# = Perennial Forb
 AG# = Annual Graminoid
 PG# = Perennial Graminoid
 SH# = Shrub
 TR# = Tree

Soil Surface (do not use litter):

Species Code (basal hits only)
 R = Forck fragment (>5mm diameter)
 BR = bedrock
 M = Moss
 LC = Viable biotic crust on soil
 S = Soil
 EL = Embedded litter
 D = Duff

*Bare ground occurs ONLY when Top layer = NONE, Lower layers are empty (no L), and Soil surface = S

Additional Comments/Notes:

Start: 37.14383757, -108.17842174

End: 37.14412028, -108.17845134

Green represents basal hits.

Orange represents bare ground.

Point #	Top Layer	Lower Layers			Soil Surface	Point #	Top Layer	Lower Layers			Soil Surface
		Code 1	Code 2	Code 3				Code 1	Code 2	Code 3	
51				HL	S	76	ELTR7			HL	S
52	ELTR7			HL	S	77				HL	S
53	ELTR7			HL	S	78	PASM			HL	S
54	ELTR7			HL	S	79				HL	S
55				HL	S	80					S
56					S	81					S
57	ELTR7			HL	S	82				HL	S
58				HL	S	83	PASM				S
59					R	84				HL	S
60					S	85				HL	S
61					S	86					S
62	PASM				PASM	87				HL	S
63	PASM				S	88	ELTR7	SATR			S
64	ELTR7			HL	S	89				HL	S
65					S	90					S
66				HL	S	91	PASM			HL	S
67				HL	S	92	PASM			HL	S
68				HL	S	93	PASM			HL	S
69	ELTR7			HL	S	94					S
70	ELTR7			HL	S	95					S
71					S	96				HL	S
72	ELTR7			HL	S	97					R
73	ELTR7			HL	S	98	ELTR7				ELTR7
74	ELTR7			HL	S	99	ELTR7			HL	S
75				HL	S	100				HL	S

% Foliar Cover = total top layer points	58	% Relative Cover = Onsite/Offsite top layer points	96
% Bare Ground* = total points with NONE over S	22		
% Basal Cover = total plant basal hits	3		

<p>Top layer codes: Species code, common name, or NONE (no cover).</p> <p>Lower layer codes: Species code, common name, L (herbacious litter), WL (woody litter, >5mm [~1/4 in] diameter).</p>	<p>Unknown species codes:</p> <p>AF# = Annual Forb PF# = Perennial Forb AG# = Annual Graminoid PG# = Perennial Graminoid SH# = Shrub TR# = Tree</p>	<p>Soil Surface (do not use litter):</p> <p>Species Code (basal hits only) R = Forck fragment (>5mm diameter) BR = bedrock M = Moss LC = Viable biotic crust on soil S = Soil EL = Embedded litter D = Duff</p>
---	---	--

*Bare ground occurs ONLY when Top layer = NONE, Lower layers are empty (no L), and Soil surface = S

Additional Comments/Notes:

Smooth Brome (BRIN2), Western Wheatgrass (PASM), Indian Ricegrass (ACHY), Slender Wheatgrass (ELTR7), Russian Thistle (SATR), Foxtail Barley (HOJU)



Onsite 1 Start



Onsite 1 End

LINE-POINT INTERCEPT DATA FORM

Shaded cells contain calculations

Plot: WGR Hallmark 1-32 Line #: Onsite 2 Observer: Brackett Mays Recorder: Olivia Drukker

Direction: 58° Date: 7/25/23 Intercept (point) Spacing Interval: 12 IN

Point #	Top Layer	Lower Layers			Soil Surface	Point #	Top Layer	Lower Layers			Soil Surface
		Code 1	Code 2	Code 3				Code 1	Code 2	Code 3	
1					S	26	MEOF			HL	S
2	HEVI4				S	27	MEOF				MEOF
3				HL	S	28	MEOF			HL	S
4	MEOF			HL	S	29				HL	S
5				HL	S	30					S
6				HL	S	31	BRIN2			HL	S
7	MEOF				MEOF	32	MEOF			HL	S
8	MEOF				S	33	MEOF	BRIN2			S
9				HL	S	34					S
10					S	35					S
11				HL	S	36				HL	S
12					S	37				HL	S
13	BRIN2			HL	S	38				HL	S
14	MEOF				S	39	BRIN2			HL	S
15				HL	S	40					S
16	MEOF	BRIN2		HL	S	41					S
17	MEOF	BRIN2		HL	S	42					S
18				HL	S	43				HL	S
19	BRIN4			HL	S	44	MEOF			HL	S
20	MEOF				S	45	ACHY			HL	S
21					S	46				HL	S
22	MEOF			HL	S	47					R
23	BRIN2			HL	S	48					R
24					S	49	ACHY				S
25					S	50	LASQ			HL	S

Top layer codes: Species code, common name, or NONE (no cover).

Lower layer codes: Species code, common name, L (herbacious litter), WL (woody litter, >5mm [~1/4 in] diameter).

Unknown species codes:

AF# = Annual Forb
 PF# = Perennial Forb
 AG# = Annual Graminoid
 PG# = Perennial Graminoid
 SH# = Shrub
 TR# = Tree

Soil Surface (do not use litter):

Species Code (basal hits only)
 R = Forck fragment (>5mm diameter)
 BR = bedrock
 M = Moss
 LC = Viable biotic crust on soil
 S = Soil
 EL = Embedded litter
 D = Duff

*Bare ground occurs ONLY when Top layer = NONE, Lower layers are empty (no L), and Soil surface = S

Additional Comments/Notes:

Start: 37.14403154, -108.17814418
 End: 37.14412975, -108.17780899

Green represents basal hits.

Orange represents bare ground.

Point #	Top Layer	Lower Layers			Soil Surface	Point #	Top Layer	Lower Layers			Soil Surface
		Code 1	Code 2	Code 3				Code 1	Code 2	Code 3	
51	BRIN2			HL	S	76				HL	S
52					S	77					S
53				HL	S	78				HL	S
54	PASM			HL	S	79	ELTR7			HL	S
55				HL	S	80					S
56	HOJU			HL	S	81	BRIN2				BRIN2
57				HL	S	82					S
58	PASM			HL	S	83				HL	S
59					S	84	ACHY			HL	S
60	BRIN2			HL	S	85	ACHY			HL	S
61				HL	S	86	ACHY			HL	S
62	HEVI	BRIN2		HL	S	87				HL	S
63					S	88					S
64	ACHY			HL	S	89					S
65					S	90				HL	S
66					S	91	ELTR7			HL	S
67					S	92	ELTR7				S
68				HL	S	93					S
69	ELTR7			HL	S	94	HOJU			HL	S
70	ACHY				ACHY	95	HOJU			HL	S
71				HL	S	96	HOJU	ERIC6			S
72	ELTR7				ELTR7	97				HL	S
73	PASM	ACHY			S	98	ELTR7				S
74	HOJU			HL	S	99					S
75	ELTR7			HL	S	100	PASM			HL	S

% Foliar Cover = total top layer points	48	% Relative Cover = Onsite/Offsite top layer points	80
% Bare Ground* = total points with NONE over S	25		
% Basal Cover = total plant basal hits	6		

Top layer codes: Species code, common name, or NONE (no cover).	Unknown species codes:	Soil Surface (do not use litter):
Lower layer codes: Species code, common name, L (herbacious litter), WL (woody litter, >5mm [~1/4 in] diameter).	AF# = Annual Forb PF# = Perennial Forb AG# = Annual Graminoid PG# = Perennial Graminoid SH# = Shrub TR# = Tree	Species Code (basal hits only) R = Forck fragment (>5mm diameter) BR = bedrock M = Moss LC = Viable biotic crust on soil S = Soil EL = Embedded litter D = Duff

*Bare ground occurs ONLY when Top layer = NONE, Lower layers are empty (no L), and Soil surface = S

Additional Comments/Notes:
Hairy False Goldenaster (HEVI4), Yellow Sweetclover (MEOF), Smooth Brome (BRIN2), Indian Ricegrass (ACHY), European Stickseed (LASQ), Western Wheatgrass (PASM), Foxtail Barley (HOJU), Slender Wheatgrass (ELTR7), Redstem Stork's Bill (ERIC6)



Onsite 2 Start



Onsite 2 End

LINE-POINT INTERCEPT DATA FORM

Shaded cells contain calculations

Plot: WGR Hallmark 1-32 Line #: Offsite 1 Observer: Brackett Mays Recorder: Olivia Drukker

Direction: 147° Date: 7/25/23 Intercept (point) Spacing Interval: 12 IN

Point #	Top Layer	Lower Layers			Soil Surface	Point #	Top Layer	Lower Layers			Soil Surface
		Code 1	Code 2	Code 3				Code 1	Code 2	Code 3	
1	COWR2				S	26	JUOS				D
2					S	27	JUOS				D
3	COWR2				S	28	JUOS				D
4					M	29	JUOS				D
5				HL	S	30	JUOS				D
6					S	31	JUOS			HL	S
7					S	32	JUOS			HL	S
8					S	33	JUOS			HL	S
9	JUOS			HL	S	34	JUOS			HL	S
10	JUOS				S	35	JUOS			HL	S
11	JUOS			HL	S	36	JUOS				S
12	JUOS			HL	S	37					S
13	JUOS			HL	S	38					S
14	JUOS	YUBA		HL	S	39					S
15	JUOS	YUBA		HL	S	40					S
16	JUOS	YUBA		HL	S	41	OPPO				S
17	JUOS			HL	S	42	COWR2				S
18	JUOS	YUBA		HL	S	43	COWR2				S
19	JUOS			HL	S	44					S
20	JUOS				D	45					S
21	JUOS				D	46	COWR2				S
22	JUOS				D	47					S
23	JUOS				D	48	COWR2				S
24	JUOS				D	49					S
25	JUOS				D	50	COWR2	OPPO		HL	S

Top layer codes: Species code, common name, or NONE (no cover).

Lower layer codes: Species code, common name, L (herbacious litter), WL (woody litter, >5mm [~1/4 in] diameter).

Unknown species codes:

AF# = Annual Forb
 PF# = Perennial Forb
 AG# = Annual Graminoid
 PG# = Perennial Graminoid
 SH# = Shrub
 TR# = Tree

Soil Surface (do not use litter):

Species Code (basal hits only)
 R = Forck fragment (>5mm diameter)
 BR = bedrock
 M = Moss
 LC = Viable biotic crust on soil
 S = Soil
 EL = Embedded litter
 D = Duff

*Bare ground occurs ONLY when Top layer = NONE, Lower layers are empty (no L), and Soil surface = S

Additional Comments/Notes:

Start: 37.14370305, -108.17800864
 End: 37.14341761, -108.17795346

Green represents basal hits.

Orange represents bare ground.

Point #	Top Layer	Lower Layers			Soil Surface	Point #	Top Layer	Lower Layers			Soil Surface
		Code 1	Code 2	Code 3				Code 1	Code 2	Code 3	
51	COWR2				S	76	JUOS				D
52				HL	S	77	JUOS				D
53	LUBR2				S	78	JUOS				D
54	LUBR2				S	79	JUOS				D
55					S	80	JUOS				D
56	COWR2				S	81	JUOS			HL	S
57	COWR2				S	82	JUOS	COWR2		HL	S
58					S	83				HL	S
59				HL	S	84				HL	S
60				HL	S	85					S
61				HL	S	86					S
62					S	87				HL	S
63	COWR2				S	88					S
64					S	89					S
65					S	90					S
66	JUOS			HL	S	91					S
67	JUOS			HL	S	92				HL	S
68	JUOS			HL	S	93	COWR2				OPPO
69	JUOS			HL	S	94					S
70	JUOS			HL	S	95				HL	S
71	JUOS			HL	S	96					S
72	JUOS			HL	S	97					S
73	JUOS				D	98					S
74	JUOS				D	99					S
75	JUOS				D	100					S

% Foliar Cover = total top layer points	60
% Bare Ground* = total points with NONE over S	29
% Basal Cover = total plant basal hits	1

Top layer codes: Species code, common name, or NONE (no cover).	Unknown species codes:	Soil Surface (do not use litter):
Lower layer codes: Species code, common name, L (herbaceous litter), WL (woody litter, >5mm [~1/4 in] diameter).	AF# = Annual Forb PF# = Perennial Forb AG# = Annual Graminoid PG# = Perennial Graminoid SH# = Shrub TR# = Tree	Species Code (basal hits only) R = Forck fragment (>5mm diameter) BR = bedrock M = Moss LC = Viable biotic crust on soil S = Soil EL = Embedded litter D = Duff

*Bare ground occurs ONLY when Top layer = NONE, Lower layers are empty (no L), and Soil surface = S

Additional Comments/Notes:
Wright's Bird's Beak (COWR2), Utah Juniper (JUOS), Broad Leaf Yucca (YUBA), Plains Pricklypear (OPPO), Short-Stem Lupine (LUBR2)



Offsite 1 Start



Offsite 1 End



Google Earth

IMAGE COURTESY OF
GOOGLE EARTH

LEGEND

- SITE BOUNDARY
- LPI TRANSECT START
- LPI TRANSECT END



RECLAMATION MAP
HALLMARK 1-32 WELL PAD
SEC 32 T34N R12W
LA PLATA COUNTY, CO
OCCIDENTAL PETROLEUM CORPORATION



PHOTOGRAPHIC LOG



Photograph 1: View south of 2-track access road entrance.



Photograph 2: View north along 2-track access road.



Photograph 3: View north near pad entrance.



Photograph 4: View east of the reclaimed pad surface.



Photograph 5: View of vegetation along west side of reclaimed pad surface.



Photograph 6: View north of armored stormwater swale at northern pad perimeter.



Photograph 7: View west of rock check dam in vegetated stormwater swale.



Photograph 8: View northeast on reclamation pad surface of native juniper and yucca establishment.



Photograph 9: View north of vegetation along eastern site perimeter.



Photograph 10: View east of vegetation establishment on reclamation surface.