REPORT

2010 PIT CLOSURE REPORT

Marathon Oil Company
Piceance Asset

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1.0 INTRODUCTION

This Pit Closure Report (Report) is issued on behalf of Marathon Oil Company (Marathon) in connection with 2010 pit closure activities for the Piceance Asset. This Report was developed by Golder Associates Inc. (Golder) as summary documentation of Marathon's pit closure and interim reclamation activities that occurred from August 2010 through May 2011.

This Report is based on: 1) Golder's documentation and observations during the field work; 2) documentation and information provided by Marathon; 3) documentation and information from Marathon's construction/reclamation contractor, Bolton Fencing & Construction (Bolton) of Meeker, Colorado; 4) pit closure and interim pad reclamation drawings provided by William H. Smith and Associates Land Surveyors (WH Smith) of Green River, Wyoming, which are included in Appendix A; and 5) laboratory results from analytical testing of confirmatory samples collected by Golder and analyzed by Accutest Laboratories Mountain States (Accutest), as provided in Appendix B. Representative photographs of the pit closure and interim pad reclamation activities are included in Appendix C.

Work described in this Report was performed based on the following Golder documents:

- *Sampling and Analysis Plan for Marathon Oil Company Piceance Asset Pits, Garfield County, Colorado*, issued April 9, 2010 (referred to herein as the SAP); and
- *Marathon Oil Company 2010 Closure Plan for Piceance Asset Pits, Garfield County, Colorado*, issued June 16, 2010 (referred to herein as the 2010 Closure Plan).

1.1 Project Overview

This Report focuses on pit closure and interim reclamation activities performed at Marathon Piceance Asset well pads 13C, 18A, 18C, and 31A, which are located in Garfield County, Colorado (Figure 1). Major related activities included:

- Pit Material Characterization and Closure Planning (which are documented in the SAP and the 2010 Closure Plan, and are not the focus of this Report);
- Removal and Disposition of Pit Liquids;
- Removal, Amendment, and Staging of Pit Solids;
- Removal and Final Disposition of Pit Liners;
- Confirmatory Sampling and Analytical Testing; and
- Backfilling, Grading, Cover Placement, and Revegetation.

A pre-activity job safety analysis was conducted by Marathon and attended by Bolton, Golder, and Marathon personnel on August 24, 2010. In addition, Bolton conducted daily tailgate meetings and provided a Job Safety Coordinator. Marathon's construction supervisor, Gary Starks, was onsite regularly during the pit closure activities.

Bolton pit closure crews generally consisted of three to four operators. Bolton mobilized two crews for most of September 2010 and part of October 2010. Equipment involved in the closure activities included but was not limited to a Kamatsu 540 front-end loader, a Cat D-8 bulldozer, a Cat D-9 bulldozer, a Cat 330C tracked excavator, a Cat 325C tracked excavator, a John Deere 240D tracked excavator, a skid-steer loader, and two Cat sheep's foot roller/compactors.

1.2 Regulatory Standards

The pit closures described herein were performed in an environmentally protective manner and in accordance with COGCC regulations, other applicable regulations, and COGCC guidance. To confirm compliance with COGCC regulations, materials were analyzed for the constituents listed in COGCC Table 910-1, including the following.

- Metals – 13 metals listed in Table 910-1, excluding boron
- TPH – total volatile and extractable petroleum hydrocarbons
- BTEX – benzene, toluene, ethylbenzene, and xylene (total)
- PAH – polynuclear aromatic hydrocarbons
- EC – electrical conductivity
- SAR – sodium adsorption ratio
- pH

Associated regulatory considerations are noted below and are detailed in the 2010 Closure Plan.

1.2.1 Agricultural Standards

SAR, EC, and pH are collectively referred to herein as agricultural standards. COGCC standards for SAR, EC, and pH are only applicable to soils within 3 feet of the ground surface. Based on these COGCC standards and discussions with the COGCC, the 2010 Closure Plan specified that 3 feet of cover soil meeting COGCC agricultural standards would be placed over all amended pit materials. Therefore, no further action was required to meet the agricultural standard requirements listed in COGCC Table 910-1.

1.2.2 Arsenic

Based on material characterization detailed in the 2010 Closure Plan, arsenic is the only metal that exceeded COGCC Table 910-1 standards for the pits discussed in this Report. Arsenic is a naturally occurring constituent in geologic materials in the vicinity of these pits, so background arsenic concentrations were quantified by the characterization program described in the 2010 Closure Plan. Therefore, as agreed with the COGCC, these background arsenic concentrations were the basis for closure instead of the arsenic standard listed in COGCC Table 910-1, as described in the Sundry Notices provided in Appendix D.

1.2.3 PAH Compounds

Based on pit material characterization described in the 2010 Closure Plan, the following PAH compounds exceed COGCC standards for each of the 2010 pit closures:

- Benzo(A)anthracene
- Benzo(B)fluoranthene
- Benzo(A)pyrene
- Dibenzo(A,H)anthracene
- Indeno(1,2,3-cd)pyrene
- Benzo(K)fluoranthene (Pit 18A only)

These PAH compounds are from the Mahogany Zone of the Green River Formation, which was fully penetrated by each of the drilling operations conducted at each of the pads. Therefore, as agreed with the COGCC, apart from submittal of Sundry Notices (Appendix D) requesting consideration of the PAH values as indicative of background concentrations attributable to the Mahogany Zone, no further action was required to amend these PAH concentrations.

2.0 REMOVAL AND DISPOSITION OF PIT LIQUIDS

Marathon contracted with Production Transport of DeBeque, Colorado to remove free liquids from the pits, where present. Removal of free liquids began on September 1, 2010 at pits 18C and 18A. Approximately 100 barrels (bbl) of liquid were removed from 18C, 100 bbl of liquid were removed from 18A, and 200 bbl of liquid were removed from 13C. These liquids were transported to the Danish Flats Environmental Services facility in Cisco, Utah for final disposal.

3.0 REMOVAL, AMENDMENT, AND STAGING OF PIT SOLIDS

Pit material removal, amendment, and staging activities described below were performed by Bolton. The noted material sampling activities are further detailed in Section 5.

3.1 Pit 18C

Removal, amendment, and staging of 18C pit solids began on August 30, 2010. Fill slopes and the helicopter pad at 18C were pulled up and clean fill materials from these locations were staged for blending with pit solids. As pit solids were removed from the pit, they were blended with clean fill materials at various ratios based on material handling and moisture content considerations.

As described in the 2010 Closure Plan, amendment of 18C pit materials was not required to meet constituent standards in COGCC Table 910. However, because of the relatively high moisture content of the 18C pit materials, a significant volume of clean fill materials was used at this location. As noted in Appendix A-1, the volume of pit solids, clean admixture materials, and clean cover materials totaled 13,532 cubic yards (cy).

3.2 Pit 18A

Removal, amendment, and staging of 18A pit solids began on September 14, 2010. Clean fill material was staged for blending with pit solids. Pit solids were initially blended with clean fill at a ratio of 3.5:10 (clean fill:pit solids). However, due to the relatively high moisture content of the 18A pit materials this ratio was subsequently increased. Approximately 4,100 cy of pit solids were removed from the pit, blended, and staged by September 24, 2010.

Amended materials from Pit 18A that were sampled on September 27, 2010 did not comply with COGCC Table 910-1. These materials were therefore remixed with additional fill materials at a ratio of approximately 2:1 (clean fill:previously amended materials). The second remixing of amended materials was re-sampled by Golder on October 12, 2010. Re-blending activities are shown in Photos 1(a), (b), and (c) in Appendix C. The results of this sampling (Section 5.2) identified one quadrant of the amended material pile with slight exceedences of desired constituent levels. As agreed with the COGCC, this quadrant was then re-blended with approximately 300 cy of additional fill material.

Final confirmatory sampling of the staged amended materials was performed by Golder on October 29, 2010. As noted in Appendix A-2, the volume of pit solids, clean admixture materials, and clean cover materials totaled 11,618 cy.

3.3 Pit 13C

Removal, amendment (Photos 3 and 4), and staging of 13C pit solids began on September 24, 2010. As pit solids were removed from the pit, they were blended with clean fill materials at various ratios based on

material handling and moisture content considerations, then were staged for confirmatory sampling (Photos 5 and 6).

Confirmatory sampling of the staged amended materials was performed by Golder on October 12, 2010. Because of the relatively high moisture content of the 13C pit materials, a significant volume of clean fill materials was used at this location. As noted in Appendix A-3, the volume of pit solids, clean admixture materials, and clean cover materials totaled 20,578 cy.

3.4 Pit 31A

Removal, amendment, and staging of 31A pit solids began on December 3, 2010. Fill material was initially staged as the fill slopes and helicopter pad at 31A were pulled up. As pit solids were removed from the pit, they were blended with clean fill materials at various ratios based on material handling and moisture content considerations.

Confirmatory sampling of the staged amended materials was performed by Golder on January 5, 2011 (Photo 7). Because of the relatively high moisture content of the 31A pit materials, a significant volume of clean fill materials was used at this location. As noted in Appendix A-4, the volume of pit solids, clean admixture materials, and clean cover materials totaled 20,488 cubic yards.

4.0 REMOVAL AND DISPOSITION OF PIT LINERS

After pit solids were removed from individual pits, the liner was allowed to dry. Construction personnel took care not to rip or puncture the liner while any liquids remained on the liner. Once the pit liner was dry, a track-hoe equipped with claw bucket was used to remove the liner from the pit (Photo 9). The empty pit (Photo 8) was then inspected for evidence of leakage and was sampled to confirm compliance with COGCC standards (Section 5).

After Bolton removed any free pit solids from the liner, the liner was staged (Photos 10 and 11) for transport to an appropriate waste facility. Pit liners from 18C, 18A, 13C, and 31A were ultimately disposed of at the ECDC Environmental facility at 1111 West Highway 123 in East Carbon, Utah.

5.0 CONFIRMATORY SAMPLING, ANALYSIS, AND EVALUATION

Material sampling and analysis were performed in connection with the pit closures at 18C, 18A, 13C, and 31A. In addition to the pit material characterization described in the 2010 Closure Plan, the following sampling was performed for these pits/pads to verify compliance with COGCC Table 910-1.

- Topsoil Sampling – Two samples were collected for each pad (Photo 16).
- Fill Material Sampling – Four samples were collected for each pad to characterize materials that would be used to amend the pit solids or as clean cover soil overlying the amended materials.
- Amended Material Sampling – At least five samples were collected after the pit solids were amended with clean materials.
- Subgrade Sampling – Following removal of the pit liners, sampling was performed to confirm that pit operations had not resulted in leakage to the subgrade. In accordance with COGCC regulations, one soil sample was collected from immediately beneath the liner near the lowest point of pits 18C, 18A, 13C, and 31A. Analytical results and subgrade visual inspections indicated that subgrade soils had not been impacted.

All confirmatory sampling was performed by trained Golder personnel Golder in accordance with the SAP. Material samples were collected using disposable sampling equipment and were stored in sterile laboratory supplied containers. Samples were hand delivered under chain-of-custody procedures to Accutest Laboratories–Mid-West of Wheat Ridge, Colorado.

Material samples were analyzed for the constituents listed in COGCC Table 910-1, as described in Section 1.2. Analytical data (Appendix B) were received from the laboratory in electronic format as well as in hard copy. Electronic data were verified against the hard copy reports at a minimum frequency of 10 percent. Sampling history and evaluation of the corresponding analytical results are provided below for each of the 2010 pit closures.

5.1 Pit 18C

- Four fill samples and two topsoil samples were collected on September 9, 2010 (Table 1).
- One subgrade sample was collected on September 9, 2010 from below the pit liner (Table 2).

Analytical results from 18C were submitted to the COGCC on September 14, 2010. Samples 18C-F1, F2, F3 and F4 were stockpiled fill materials that were excavated in connection with initial pad/pit construction and had not been exposed to any operational fluids or other sources of contamination. Samples 18C-TS1 and TS2 were stockpiled topsoil materials, and sample 18C-SG was from in-situ subgrade materials below the pit liner at the lowest point of the pit.

Elevated arsenic concentrations were measured in the stockpiled fill materials and in the subgrade sample. These concentrations were much higher than the pit material arsenic concentrations detailed in the 2010 Closure Plan, which averaged 3.9 parts per million (ppm). Based on these comparisons, and the corresponding results confirming no other contamination in the subgrade and stockpiled fill materials, it was concluded that the elevated arsenic concentrations were due to background conditions and were not due to Marathon operations.

It is also noted that three of the four samples of stockpiled fill materials exceeded the Table 910-1 pH standard of 9; the maximum pH value was 9.13. As noted above, these materials were excavated in connection with initial pad/pit construction and had not been exposed to any operational fluids or other sources of contamination. Again, it was concluded that the elevated pH values were due to background conditions and were not due to Marathon operations.

Therefore, based on these observations, it was requested that the COGCC authorize site grading and backfilling of Pit 18C with these stockpiled materials. This request was granted on September 14, 2010.

5.2 Pit 18A

- On September 9, 2010, four fill samples and two topsoil samples were collected (Table 3).
- On September 27, 2010, five amended material samples were collected (Table 4).
- On September 27, 2010, one subgrade sample was collected from below the pit liner (Table 7).
- On October 12, 2010, five additional amended material samples were collected (Table 5). Golder re-sampled amended material staged on the pad after further re-blending of materials based on the initial September 29, 2010 sampling efforts.
- Five additional amended material samples were collected from a portion of the amended material piles on October 29, 2010 (Table 6).

As planned, the pit closure process included mixing the 18A pit materials with clean soil. The initial amended materials (samples 18A-AM1 through AM5 in Table 4) exceeded some COGCC Table 910-1 standards, so the amended materials were mixed with additional clean soil and again sampled (samples 18A-AM6 through AM10 described in Table 5).

The following observations are based on the Pit 18A analytical results.

- Topsoil Samples (18A-TS1 and 18A-TS2) – The only exceedances of COGCC Table 910-1 standards were for arsenic, and the arsenic values were consistent with background concentrations.
- Fill Samples (18A-F1 through 18A-F4) – Except for arsenic and single outliers for EC and benzo(A)pyrene, there were no exceedances of COGCC Table 910-1 standards. These fill materials were excavated in connection with initial pad/pit construction, and had not been exposed to any operational fluids or other sources of contamination.

- Subgrade Sample (18A-SG1) – Except for pH, arsenic and select PAH compounds, there were no exceedances of COGCC Table 910-1 standards in the material below the pit liner. The pH value of 9.1, the arsenic concentration of 9.1 ppm, and the low PAH concentrations were considered representative of background conditions.
- Amended Material Samples (18A-AM6 through 18A-AM10)
  - Arsenic concentrations averaged 15.3 ppm, which makes sense based on the arsenic concentrations measured in the fill that was mixed with the pit materials.
  - Average BTEX concentrations were all well below the COGCC Table 910-1 standards.
  - As discussed with COGCC, PAH concentrations exceeding Table 910-1 standards were indicative of background concentrations present within the Mahogany Zone of the Green River Formation.
  - TPH concentrations ranged from 439.6 to 586.1 ppm, except for sample 18A-AM9, which was 872.6 ppm and was considered an outlier. Excluding sample 18A-AM9, the average TPH concentration in the mixed pit/clean materials was 502.2 ppm, compared to the COGCC Table 910-1 standard of 500 ppm.

As noted above, Bolton had twice mixed the 18A pit materials with clean soil, and the resulting amended materials were characterized by BTEX concentrations well below the COGCC Table 910-1 standards. On October 21, 2010, the COGCC agreed that only a portion of the 18A pit materials required additional admixing. This supplemental admixing resulted in the concentrations shown in Table 6, which were acceptable based on COGCC criteria.

5.3 Pit 13C

- On September 29, 2010, four fill samples and two topsoil samples were collected (Table 8).
- On October 12, 2010, five amended material samples were collected (Table 9).
- One subgrade sample was collected on October 12, 2010 from below the pit liner (Table 10).

The following observations are based on the Pit 13C analytical results.

- Topsoil Samples (13C-TS1 and 13C-TS2) – The only exceedances of COGCC Table 910-1 standards were for arsenic, and the arsenic values were consistent with background concentrations.
- Fill Samples (13C-F1 through 13C-F4) – Except for arsenic and pH, there were no exceedances of COGCC Table 910-1 standards. These fill materials were excavated in connection with initial pad/pit construction, and had not been exposed to any operational fluids or other sources of contamination.
- Subgrade Sample (13C-SG1) – Except for arsenic and pH, there were no exceedances of background concentrations or COGCC Table 910-1 standards in the material below the pit liner.
- Amended Material Samples (13C-AM1 through 13C-AM5).

- pH values in the mixed materials averaged 9.32, which exceeded the COGCC Table 910-1 standard of 9. However, these amended materials were be covered by at least 3 feet of materials with agricultural standard values acceptable to COGCC.
- Arsenic concentrations averaged 9.28 ppm, which makes sense based on the elevated arsenic concentrations in the fill materials noted above.
- As discussed with COGCC, PAH concentrations exceeding Table 910-1 standards were indicative of background concentrations present within the Mahogany Zone of the Green River Formation.
- TPH concentrations ranged from 52.9 to 561.7 ppm. The average TPH concentration in the mixed pit/clean materials was 256.4 ppm, compared to the COGCC Table 910-1 standard of 500 ppm.

5.4 Pit 31A

- On September 29, 2010, four fill samples and two topsoil samples were collected (Table 11).
- On January 5, 2011, five amended material samples (Photo 14) were collected (Table 12).
- One subgrade sample was collected on January 5, 2011 from below the pit liner (Table 13).

The following observations are based on the Pit 31A analytical results.

- Topsoil Samples (31A-TS1 and 31A-TS2) – The only exceedances of COGCC Table 910-1 standards were for arsenic, and the arsenic values were consistent with background concentrations.
- Fill Samples (31A-F1 through 31A-F4) – Except for arsenic, PAH, and pH, there were no exceedances of COGCC Table 910-1 standards. These fill materials were excavated in connection with initial pad/pit construction, and had not been exposed to any operational fluids or other sources of contamination.
- Subgrade Sample (31A-SG1) – Except for arsenic, PAH, and pH, there were no exceedances of background concentrations or COGCC Table 910-1 standards in the material below the pit liner.
- Amended Material Samples (31A-AM1 through 31A-AM5)
  - pH values in the mixed materials averaged 9.2, which exceeds the COGCC Table 910-1 standard of 9. However, these amended materials were covered by at least 3 feet of materials with agricultural standard values acceptable to COGCC.
  - Arsenic concentrations averaged 4.0 ppm, which makes sense based on the elevated arsenic concentrations in the fill materials noted above.
  - As discussed with COGCC, PAH concentrations exceeding Table 910-1 standards were indicative of background concentrations present within the Mahogany Zone of the Green River Formation.
  - TPH concentrations averaged 92.9 ppm, compared to the COGCC Table 910-1 standard of 500 ppm.

6.0 BACKFILLING, GRADING, COVER PLACEMENT, AND REVEGETATION

Backfilling of the pits (Photos 17 and 18) was performed following confirmation that the materials were in compliance with COGCC requirements. Backfilling with amended materials was done in approximate 6-inch lifts. In order to achieve appropriate compaction, clean fill material lifts were alternated with amended material lifts. Both materials were placed in 6-inch lifts. During backfilling, materials were inspected for liner pieces and to ensure appropriate compaction was achieved. A sheep's foot roller/compactor was used to achieve desired compaction (Photos 19 and 20).

Once pits were backfilled and amended materials were placed, additional fill materials were used for final covering and to achieve final interim grade. All amended materials were covered by a minimum of 3 feet of clean fill material. For the 18A pad, additional fill material was sourced from a borrow pit in Marathon's Circle Dot Quarry located in Section 1,Township 6 North, Range 97 West, 6th PM, Garfield County, Colorado.

WH Smith provided civil/land surveying, grading plans, and confirmatory surveys. Based on these surveys, final interim reclamation grades were achieved by moving 7,397 cy of materials at pad 18C, 5,850 cy at pad 18A, 11,273 cy at pad 13C, and 12,024 cy at pad 31A.

Once final interim grades were achieved, approximately 4 to 6 inches of topsoil was spread over the recontoured and abandoned areas of the drilling pad (Photos 24 and 25). To achieve the final interim grades, fill slopes were pulled back and cut slopes were backfilled, where possible. Berms were constructed around the remaining production well pads to assist in managing run-on and run-off.

Re-seeding activities consisted of broadcast seeding and application of mulch followed by either crimping or track-walking, depending on slope. Seed mixes were predetermined between the surface owner and Marathon. The following pure live seed (PLS) mix was applied at a rate of 50 pounds/acre.

Common Name	Scientific Name	Variety	PLS lbs/acre
GRASSES			
Wheat x Tall Wheatgrass	*Triticum aestivum x Elytrigia elongata*	Regreen	24.0
Mountain Brome	*Bromus marginatus*	Garnet, BromaR	14.0
Slender Wheatgrass	*Agropyron trachycaulum*	San Luis	8.0
FORBS			
Utah sweetvech	*Hedysarum boreale*	Timp	4.0
Pure Live Seed Total			**50.0 PLS**

Final interim grades and conformance to the grading plans was confirmed by surveys conducted by WH Smith. Excess topsoil, which will be used in final reclamation, was windrowed, reseeded and stored in a manner that preserves biologic viability (Photos 16 and 28).

7.0 PIT CLOSURE STATUS

Due to severe weather conditions during the winter of 2010/2011, associated safety concerns, and winter wildlife closures, Marathon postponed the closure and interim reclamation activities for pit/pad 33C until later in 2011. As detailed in a separate report, closure and interim reclamation activities for pit/pad 33C started on June 6, 2011 and finished on August 10, 2011. The status of pit closure activities at pads 18C, 18A, 13C, and 31A is a follows.

- Pit closure, final interim grading, and seeding were completed at 18C as of October 29, 2010.
- Pit closure and final interim grading were completed at 18A as of November 16, 2010. Seeding for interim reclamation was completed during the week of May 16, 2011.
- As of November 16, 2010, pit 13C had been backfilled and all amended materials had been placed and covered at this location. Final interim grading and seeding for interim reclamation were completed during the week of May 16, 2011.
- As of January 5, 2011, 31A pit materials had been amended. Backfilling of pit 31A was completed in January 2011. Final interim grading and seeding for interim reclamation were completed during the week of May 16, 2011.

8.0 SUMMARY AND CONCLUSIONS

Pit closure and interim reclamation activities were performed at Marathon Piceance Asset well pads 13C, 18A, 18C, and 31A. Primary activities included the following.

- Pit liquids were transported to the Danish Flats Environmental Services facility for final disposal.
- Pit solids were amended in accordance with the 2010 Closure Plan and COGCC guidance. At least five representative samples were collected from the staged amended materials. To confirm compliance with COGCC regulations, the amended materials were analyzed for the constituents listed in COGCC Table 910-1.
- For each of the pits, the liner was removed, the pit subgrade was inspected for evidence of leakage, subgrade sampling was performed to confirm compliance with COGCC standards, and the liner was disposed of at the ECDC Environmental facility.
- Backfilling of the pits was performed following confirmation that the amended materials were in compliance with COGCC requirements.
- Once the pits were backfilled and all amended materials were placed, additional clean fill materials were used for final covering and to achieve final interim grades. At least 3 feet of cover soil meeting COGCC agricultural standards was placed over all amended pit materials.
- After final interim grades were achieved, approximately 4 to 6 inches of topsoil was spread over the recontoured and abandoned areas of the drilling pads. To achieve final interim grades, fill slopes were pulled back and cut slopes were backfilled, where possible. Berms were constructed around the remaining production well pad areas to assist in managing run-on and run-off.
- Re-seeding activities consisted of broadcast seeding and application of mulch followed by either crimping or track-walking, depending on slope. Final interim grades and conformance to the grading plans was confirmed by surveying.

It is concluded that the pit closures described herein were performed in an environmentally protective manner and in accordance with COGCC regulations, other applicable regulations, and COGCC guidance. Golder Associates Inc. appreciates the opportunity to assist with these pit closure activities.

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TABLES

TABLE 1
ANALYTICAL RESULTS FOR
PIT 18C FILL AND TOPSOIL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	18C-F1	18C-F2	18C-F3	18C-F4	18C-TS1	18C-TS2
Organic Compounds in Soil								
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	ND	ND	ND	ND	ND	ND
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	ND	ND
Acenaphthene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Anthracene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	ND	ND
Fluoranthene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Fluorene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND	ND	ND
Pyrene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Agricultural Standards								
Electrical Conductivity (EC)	<4	mmhos/cm	0.205	0.243	0.277	0.182	0.199	0.23
Sodium Adsorption Ratio (SAR)	<12		1.42	1.65	1.41	1.23	0.392	0.448
pH	6 - 9		8.92	9.08	9.12	9.13	7.05	6.79
Metals in Soils								
Arsenic	0.39	mg/kg	16.3	11.6	24.6	13.3	6.0	6.5
Barium (Total Barium)	15000	mg/kg	224	251	241	234	197	203
Cadmium	70	mg/kg	1.2	RL	1	0.93	RL	RL
Chromium (III)	12000	mg/kg	19.7	22.0	20.9	21.6	19.4	19.8
Chromium (VI)	23	mg/kg	0.58	0.62	RL	0.54	RL	RL
Copper	3100	mg/kg	19.0	19.7	20.0	19.2	15.2	15.6
Lead (inorganic)	400	mg/kg	9.5	11.5	11.3	10.7	11.9	11.7
Mercury	23	mg/kg	RL	RL	RL	RL	RL	RL
Nickel (soluble salts)	1600	mg/kg	17.5	20.0	20.4	18.7	11.8	12.7
Selenium	390	mg/kg	RL	RL	RL	RL	RL	RL
Silver	390	mg/kg	RL	RL	RL	RL	RL	RL
Zinc	23000	mg/kg	56.3	58.0	59.7	58.7	49.2	51.7

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

TABLE 2
ANALYTICAL RESULTS FOR
PIT 18C SUBGRADE SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	18C-SG
Organic Compounds in Soil			
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	ND
Benzene	0.17	mg/kg	ND
Toluene	85	mg/kg	ND
Ethylbenzene	100	mg/kg	ND
Xylenes (Total)	175	mg/kg	ND
Acenaphthene	1000	mg/kg	ND
Anthracene	1000	mg/kg	ND
Benzo(A)anthracene	0.22	mg/kg	ND
Benzo(B)fluoranthene	0.22	mg/kg	0.054
Benzo(K)fluoranthene	2.2	mg/kg	ND
Benzo(A)pyrene	0.022	mg/kg	ND
Chrysene	22	mg/kg	0.053
Dibenzo(A,H)anthracene	0.022	mg/kg	ND
Fluoranthene	1000	mg/kg	0.074
Fluorene	1000	mg/kg	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND
Naphthalene	23	mg/kg	ND
Pyrene	1000	mg/kg	ND
Agricultural Standards			
Electrical Conductivity (EC)	<4	mmhos/cm	1.160
Sodium Adsorption Ratio (SAR)	<12		5.28
pH	6 - 9		8.48
Metals in Soils			
Arsenic	0.39	mg/kg	36.1
Barium (Total Barium)	15000	mg/kg	425
Cadmium	70	mg/kg	RL
Chromium (III)	12000	mg/kg	12.8
Chromium (VI)	23	mg/kg	RL
Copper	3100	mg/kg	25.4
Lead (inorganic)	400	mg/kg	14.0
Mercury	23	mg/kg	RL
Nickel (soluble salts)	1600	mg/kg	14.0
Selenium	390	mg/kg	RL
Silver	390	mg/kg	RL
Zinc	23000	mg/kg	53.0

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

TABLE 3
ANALYTICAL RESULTS FOR
PIT 18A FILL AND TOPSOIL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	18A-F1	18A-F2	18A-F3	18A-F4	18A-TS1	18A-TS2
Organic Compounds in Soil								
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	ND	208	31.9	257	48.3	35.2
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	ND	ND
Acenaphthene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Anthracene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	0.0953	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	0.214	ND	0.0919	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	0.0629	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	0.0499	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	0.164	ND	0.0819	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	ND	ND
Fluoranthene	1000	mg/kg	ND	0.136	ND	0.0782	ND	ND
Fluorene	1000	mg/kg	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND	ND	ND
Pyrene	1000	mg/kg	ND	0.0756	ND	ND	ND	ND
Agricultural Standards								
Electrical Conductivity (EC)	<4	mmhos/cm	0.445	11.8	0.319	0.466	0.537	0.217
Sodium Adsorption Ratio (SAR)	<12		0.439	3.31	0.464	0.357	0.188	0.225
pH	6 - 9		8.43	7.95	8.73	8.83	7.68	7.59
Metals in Soils								
Arsenic	0.39	mg/kg	21	21.1	237	15.3	19.3	23.3
Barium (Total Barium)	15000	mg/kg	185	374	235	329	239	223
Cadmium	70	mg/kg	RL	RL	RL	RL	RL	RL
Chromium (III)	12000	mg/kg	25.6	18.3	23.4	22.6	22	23.5
Chromium (VI)	23	mg/kg	RL	RL	RL	RL	RL	RL
Copper	3100	mg/kg	29.9	24.3	76.4	26.9	26.5	27.1
Lead (inorganic)	400	mg/kg	17.2	12.2	NA	13.5	18.4	19.4
Mercury	23	mg/kg	RL	RL	RL	RL	RL	RL
Nickel (soluble salts)	1600	mg/kg	17.1	13.9	67.8	14.7	14.3	13.9
Selenium	390	mg/kg	RL	RL	8	RL	RL	RL
Silver	390	mg/kg	RL	RL	RL	RL	RL	RL
Zinc	23000	mg/kg	49.3	44.1	89.9	44.8	50.9	52.4

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

TABLE 4
ANALYTICAL RESULTS FOR
PIT 18A INITIAL AMENDED MATERIAL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	Average Values for Pit 18A	18A-AM1	18A-AM1 DUP	18A-AM2	18A-AM3	18A-AM4	18A-AM5
Organic Compounds in Soil									
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	1209.80	1666.9	793.6	856.5	918.21	3036.7	220
Benzene	0.17	mg/kg	0.24	0.0453	0.29	0.0907	0.099	0.7	0.0
Toluene	85	mg/kg	0.42	0.0802	0.542	0.119	0.135	1.28	0
Ethylbenzene	100	mg/kg	0.08	0	0.0864	0.0348	0.0355	0.24	0
Xylenes (Total)	175	mg/kg	0.41	0.086	0.4698	0.127	0.155	1.278	0
Acenaphthene	1000	mg/kg	0.12	0.239	ND	0.169	0.135	0.306	ND
Anthracene	1000	mg/kg	0.45	0.844	0.343	0.554	0.358	0.886	0.0606
Benzo(A)anthracene	0.22	mg/kg	3.49	5.54	2.8	4.59	2.57	6.95	0.25
Benzo(B)fluoranthene	0.22	mg/kg	4.71	7.28	3.81	6.4	3.93	8.52	0.379
Benzo(K)fluoranthene	2.2	mg/kg	2.21	3.98	1.74	2.39	1.6	5.03	0.153
Benzo(A)pyrene	0.022	mg/kg	1.82	2.82	1.43	2.43	1.26	3.7	0.128
Chrysene	22	mg/kg	4.10	6.38	3.38	5.41	2.99	8.06	0.302
Dibenzo(A,H)anthracene	0.022	mg/kg	1.11	1.56	0.926	1.53	0.771	2.15	0.0863
Fluoranthene	1000	mg/kg	5.32	9.07	4.69	7.71	3.85	9.55	0.336
Fluorene	1000	mg/kg	0.37	0.672	0.268	0.506	0.287	0.729	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	1.94	2.89	1.3	2.56	1.33	4.21	0.147
Naphthalene	23	mg/kg	0.61	1.01	0.466	0.983	0.526	0.968	ND
Pyrene	1000	mg/kg	2.68	3.88	2.01	3.7	1.78	5.54	0.171
Agricultural Standards									
Electrical Conductivity (EC)	<4	mmhos/cm	NA	NA	NA	NA	NA	NA	NA
Sodium Adsorption Ratio (SAR)	<12		NA	NA	NA	NA	NA	NA	NA
pH	6 - 9		9.15	9.13	9	9.01	9.1	9.14	9.35
Metals in Soils									
Arsenic	0.39	mg/kg	14.30	10.5	30	8.4	4.8	19.2	22.4
Barium (Total Barium)	15000	mg/kg	860.60	989	956	822	946	666	443
Cadmium	70	mg/kg	RL	<0.96	<0.95	<1.0	<1.0	<0.95	<0.98
Chromium (III)	12000	mg/kg	20.52	19.5	26.6	15.8	18.1	22.8	24
Chromium (VI)	23	mg/kg	RL	<0.50	<0.49	<0.49	<0.50	<0.50	<0.50
Copper	3100	mg/kg	22.92	25.7	29.8	20.1	15.3	25.8	28.1
Lead (inorganic)	400	mg/kg	16.48	13.3	35.8	11.1	7.9	15.3	17.6
Mercury	23	mg/kg	RL	<0.10	<0.10	<0.093	<0.085	<0.093	<0.10
Nickel (soluble salts)	1600	mg/kg	11.98	13.9	14.3	12.3	7.4	12.4	14.9
Selenium	390	mg/kg	RL	<4.8	<4.8	<5.1	<5.2	<4.8	<4.9
Silver	390	mg/kg	RL	<2.9	<2.9	<3.1	<3.1	<2.9	<2.9
Zinc	23000	mg/kg	44.80	46.4	60.3	42	34.8	42.4	55

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

Green indicates average results at or above the COGCC Table 910-1 limit

TABLE 5
ANALYTICAL RESULTS FOR
PIT 18A SECONDARY AMENDED MATERIAL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	Average Values for Pit 18A	18A-AM6	18A-AM7	18A-AM8	18A-AM9	18A-AM10	18A-10AM DUP
Organic Compounds in Soil									
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	591.22	439.6	479	586.1	872.6	458.6	559.8
Benzene	0.17	mg/kg	0.07	0.0317	0.0241	0.0218	0.232	0.0	0.0305
Toluene	85	mg/kg	0.07	ND	ND	ND	0.369	ND	ND
Ethylbenzene	100	mg/kg	11.26	ND	ND	ND	56.3	ND	ND
Xylenes (Total)	175	mg/kg	0.14	0.0776	0.0601	0.0573	0.4167	0.079	0.0762
Acenaphthene	1000	mg/kg	0.05	0.0528	ND	0.0833	0.117	0.0682	ND
Anthracene	1000	mg/kg	0.04	0.191	0.187	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	1.38	1.04	1.1	1.54	2.74	1.42	0.0809
Benzo(B)fluoranthene	0.22	mg/kg	1.97	1.62	1.51	2.23	3.86	2.09	0.147
Benzo(K)fluoranthene	2.2	mg/kg	0.79	0.476	0.702	0.813	1.5	0.904	0.0536
Benzo(A)pyrene	0.022	mg/kg	0.70	0.507	0.543	0.793	1.39	0.734	0.0446
Chrysene	22	mg/kg	1.69	1.21	1.27	1.92	3.39	1.78	0.109
Dibenzo(A,H)anthracene	0.022	mg/kg	0.47	0.346	0.318	0.538	0.961	0.51	0.0358
Fluoranthene	1000	mg/kg	2.21	1.78	1.7	2.45	4.44	2.32	0.126
Fluorene	1000	mg/kg	0.16	0.141	0.13	0.187	0.319	0.139	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.72	0.593	0.647	0.793	1.36	0.767	0.0513
Naphthalene	23	mg/kg	0.30	0.319	0.182	0.347	0.651	0.244	0.0729
Pyrene	1000	mg/kg	0.94	0.761	0.828	1.01	1.83	0.944	0.0788
Metals in Soils									
Arsenic	0.39	mg/kg	15.28	37.7	19.4	16.8	10.6	12.5	17.1
Barium (Total Barium)	15000	mg/kg	812.60	543	731	849	1210	767	506
Cadmium	70	mg/kg	RL	RL	RL	RL	RL	RL	RL
Chromium (III)	12000	mg/kg	19.94	17.7	18.5	21	16.7	23.1	20.4
Chromium (VI)	23	mg/kg	RL	RL	RL	RL	RL	RL	RL
Copper	3100	mg/kg	25.40	29.7	25.2	27.8	25.8	23.4	24.8
Lead (inorganic)	400	mg/kg	13.20	16.9	14.9	14.4	11.4	12.5	12.8
Mercury	23	mg/kg	RL	RL	RL	RL	RL	RL	RL
Nickel (soluble salts)	1600	mg/kg	12.52	14.3	13.4	13.4	11.8	12.4	11.6
Selenium	390	mg/kg	RL	RL	RL	RL	RL	RL	RL
Silver	390	mg/kg	RL	RL	RL	RL	RL	RL	RL
Zinc	23000	mg/kg	51.82	48.6	64.8	56.4	47.9	50.8	39.2

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

Green indicates average values at or above the COGCC 910-1 limit

TABLE 6
ANALYTICAL RESULTS FOR
PIT 18A FINAL AMENDED MATERIAL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	Average Values for Pit 18A	18A-AM 11	18A-AM 11	18A-AM 12	18A-AM 13	18A-AM 14	18A-AM 15
Organic Compounds in Soil									
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	175.6	158	95.8	230	82.9	307	180
Benzene	0.17	mg/kg	0.01	ND	ND	0.027	ND	0.025	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	0.02	ND	ND	0.051	ND	0.052	ND
Acenaphthene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Anthracene	1000	mg/kg	0.03	ND	ND	0.063	ND	0.079	0.044
Benzo(A)anthracene	0.22	mg/kg	0.31	0.218	ND	0.484	0.188	0.663	0.283
Benzo(B)fluoranthene	0.22	mg/kg	0.50	0.390	ND	0.803	0.309	1.04	0.431
Benzo(K)fluoranthene	2.2	mg/kg	0.19	0.16	ND	0.306	0.143	0.375	0.162
Benzo(A)pyrene	0.022	mg/kg	0.16	0.114	ND	0.263	0.105	0.347	0.147
Chrysene	22	mg/kg	0.39	0.268	ND	0.621	0.238	0.851	0.341
Dibenzo(A,H)anthracene	0.022	mg/kg	0.10	0.066	ND	0.192	0.062	0.224	0.086
Fluoranthene	1000	mg/kg	0.39	0.292	ND	0.628	0.244	0.813	0.349
Fluorene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.18	0.136	ND	0.272	0.0991	0.384	0.159
Naphthalene	23	mg/kg	0.02	ND	ND	ND	ND	0.118	ND
Pyrene	1000	mg/kg	0.24	0.167	ND	0.384	0.152	0.522	0.217
Agricultural Standards									
Electrical Conductivity (EC)	<4	mmhos/cm	NA	NA	NA	NA	NA	NA	NA
Sodium Adsorption Ratio (SAR)	<12		NA	NA	NA	NA	NA	NA	NA
pH	6 - 9		9.13	9	9.01	9.1	9.14	9.35	9.17
Metals in Soils									
Arsenic	0.39	mg/kg	20.7	26.6	18.5	18	20.3	15.9	25
Barium (Total Barium)	15000	mg/kg	387	307	262	475	353	574	352
Cadmium	70	mg/kg	ND	ND	ND	ND	ND	ND	ND
Chromium (III)	12000	mg/kg	20.5	19.7	20	20.6	20.7	20.1	21.8
Chromium (VI)	23	mg/kg	0.2	ND	ND	0.4	ND	0.89	ND
Copper	3100	mg/kg	27.7	28.2	25.9	25.2	29.1	27.1	30.6
Lead (inorganic)	400	mg/kg	15.8	16.8	14.6	15.4	16.1	14.7	17.4
Mercury	23	mg/kg	ND	ND	ND	ND	ND	ND	ND
Nickel (soluble salts)	1600	mg/kg	16.1	19.3	14.3	14	15	14.2	19.9
Selenium	390	mg/kg	ND	ND	ND	ND	ND	ND	ND
Silver	390	mg/kg	ND	ND	ND	ND	ND	ND	ND
Zinc	23000	mg/kg	44.0	55	39.9	41.8	40.6	38.9	48

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected

NA = not analyzed

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

Green indicates average results at or above the COGCC Table 910-1 limit

TABLE 7
ANALYTICAL RESULTS FOR PIT 18A SUBGRADE SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	18A-SG1
Organic Compounds in Soil			
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	457
Benzene	0.17	mg/kg	ND
Toluene	85	mg/kg	ND
Ethylbenzene	100	mg/kg	ND
Xylenes (Total)	175	mg/kg	ND
Acenaphthene	1000	mg/kg	ND
Anthracene	1000	mg/kg	0.105
Benzo(A)anthracene	0.22	mg/kg	0.535
Benzo(B)fluoranthene	0.22	mg/kg	0.865
Benzo(K)fluoranthene	2.2	mg/kg	0.301
Benzo(A)pyrene	0.022	mg/kg	0.28
Chrysene	22	mg/kg	0.645
Dibenzo(A,H)anthracene	0.022	mg/kg	0.195
Fluoranthene	1000	mg/kg	0.786
Fluorene	1000	mg/kg	0.0685
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.276
Naphthalene	23	mg/kg	0.121
Pyrene	1000	mg/kg	0.37
Agricultural Standards			
Electrical Conductivity (EC)	<4	mmhos/cm	1.02
Sodium Adsorption Ratio (SAR)	<12		2.56
pH	6 - 9		9.1
Metals in Soils			
Arsenic	0.39	mg/kg	9.1
Barium (Total Barium)	15000	mg/kg	913
Cadmium	70	mg/kg	RL
Chromium (III)	12000	mg/kg	19.3
Chromium (VI)	23	mg/kg	RL
Copper	3100	mg/kg	23.6
Lead (inorganic)	400	mg/kg	12.3
Mercury	23	mg/kg	RL
Nickel (soluble salts)	1600	mg/kg	13.5
Selenium	390	mg/kg	RL
Silver	390	mg/kg	RL
Zinc	23000	mg/kg	44.5

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

TABLE 8
ANALYTICAL RESULTS FOR
PIT 13C FILL AND TOPSOIL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	13C-F1	13C-F2	13C-F3	13C-F3 DUP	13C-F4	13C-TS1	13C-TS2
Organic Compounds in Soil									
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	ND	ND	68.9	90.3	46.9	24.5	ND
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Anthracene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	0.0123	ND	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Fluorene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND	ND	ND	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND	ND	ND	ND
Pyrene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Agricultural Standards									
Electrical Conductivity (EC)	<4	mmhos/cm	NA	NA	0.276	0.302	0.897	0.557	0.34
Sodium Adsorption Ratio (SAR)	<12		NA	NA	0.782	0.818	0.789	0.387	0.389
pH	6 - 9		9.3	9.46	9.3	9.05	9.09	6.84	6.62
Metals in Soils									
Arsenic	0.39	mg/kg	27.8	15.8	17.2	11.1	22.7	5.2	5
Barium (Total Barium)	15000	mg/kg	262	501	311	240	243	209	192
Cadmium	70	mg/kg	ND	ND	ND	ND	ND	ND	ND
Chromium (III)	12000	mg/kg	28.3	30	30.9	23	36.6	21.5	23.2
Chromium (VI)	23	mg/kg	0.58	0.59	0.84	0.95	ND	ND	0.77
Copper	3100	mg/kg	16.3	16.2	19.8	17.4	17.8	13.6	12.8
Lead (inorganic)	400	mg/kg	10	10.2	13.6	10.8	12.9	10.6	12.1
Mercury	23	mg/kg	ND	ND	ND	ND	ND	ND	ND
Nickel (soluble salts)	1600	mg/kg	17.7	17.1	20.7	16.7	21.5	11.8	11.9
Selenium	390	mg/kg	ND	ND	ND	ND	ND	ND	ND
Silver	390	mg/kg	ND	ND	ND	ND	ND	ND	ND
Zinc	23000	mg/kg	49.1	40.8	56.8	43.2	55.1	44.5	44.8

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

TABLE 9
ANALYTICAL RESULTS FOR
PIT 13C AMENDED MATERIAL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	Average Values for Pit 13C	13C-AM1	13C-AM2	13C-AM2 DUP	13C-AM3	13C-AM4	13C-AM5
Organic Compounds in Soil									
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	256.4	116	508	561.7	105.7	194	52.9
Benzene	0.17	mg/kg	0.003	ND	ND	ND	ND	0.0203	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	1000	mg/kg	0.008	ND	0.0508	ND	ND	ND	ND
Anthracene	1000	mg/kg	0.007	ND	ND	0.0429	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	0.196	0.086	0.59	0.37	0.057	0.0714	ND
Benzo(B)fluoranthene	0.22	mg/kg	0.317	0.135	0.911	0.591	0.0989	0.11	0.0531
Benzo(K)fluoranthene	2.2	mg/kg	0.128	0.0656	0.317	0.286	0.0498	0.0476	ND
Benzo(A)pyrene	0.022	mg/kg	0.095	0.0447	0.302	0.193	0.0308	ND	ND
Chrysene	22	mg/kg	0.263	0.114	0.77	0.48	0.0749	0.0986	0.04
Dibenzo(A,H)anthracene	0.022	mg/kg	0.054	0.0282	0.173	0.124	ND	ND	ND
Fluoranthene	1000	mg/kg	0.340	0.145	1.07	0.557	0.0895	0.129	0.0479
Fluorene	1000	mg/kg	0.043	ND	0.175	0.0838	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.111	0.0532	0.353	0.229	0.0336	ND	ND
Naphthalene	23	mg/kg	0.075	ND	0.265	0.0733	0.0386	0.0746	ND
Pyrene	1000	mg/kg	0.174	0.0803	0.507	0.342	0.0485	0.0636	ND
Agricultural Standards									
Electrical Conductivity (EC)	<4	mmhos/cm	NA	NA	NA	NA	NA	NA	NA
Sodium Adsorption Ratio (SAR)	<12		NA	NA	NA	NA	NA	NA	NA
pH	6 - 9		9.32	9.36	9.32	9.47	9.38	9.32	9.09
Metals in Soils									
Arsenic	0.39	mg/kg	9.28	10.2	12.8	5.4	10.3	7.4	9.6
Barium (Total Barium)	15000	mg/kg	404.67	309	371	854	326	353	215
Cadmium	70	mg/kg	RL	RL	RL	RL	RL	RL	RL
Chromium (III)	12000	mg/kg	25.27	30.4	22.5	21.6	26.5	24.8	25.8
Chromium (VI)	23	mg/kg	0.49	0.51	0.53	0.5	0.72	ND	0.68
Copper	3100	mg/kg	17.58	20.9	15.7	20.6	17	17.2	14.1
Lead (inorganic)	400	mg/kg	10.25	11	9.9	10	9.8	10.2	10.6
Mercury	23	mg/kg	RL	RL	RL	RL	RL	RL	RL
Nickel (soluble salts)	1600	mg/kg	16.38	17.4	15.4	15.4	16.6	18	15.5
Selenium	390	mg/kg	RL	RL	RL	RL	RL	RL	RL
Silver	390	mg/kg	RL	RL	RL	RL	RL	RL	RL
Zinc	23000	mg/kg	48.38	46.1	48.3	43.9	54.6	49.5	47.9

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009
ND = not detected; NA = not analyzed
RL= constituent detected but value lower than the reporting limit
mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter
Yellow indicates individual results at or above the COGCC Table 910-1 limit
Green indicates average results at or above the COGCC Table 910-1 limit

TABLE 10
ANALYTICAL RESULTS FOR
PIT 13C SUBGRADE SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	13C-SG1
Organic Compounds in Soil			
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	ND
Benzene	0.17	mg/kg	ND
Toluene	85	mg/kg	ND
Ethylbenzene	100	mg/kg	ND
Xylenes (Total)	175	mg/kg	ND
Acenaphthene	1000	mg/kg	ND
Anthracene	1000	mg/kg	ND
Benzo(A)anthracene	0.22	mg/kg	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND
Benzo(A)pyrene	0.022	mg/kg	ND
Chrysene	22	mg/kg	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND
Fluoranthene	1000	mg/kg	ND
Fluorene	1000	mg/kg	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND
Naphthalene	23	mg/kg	ND
Pyrene	1000	mg/kg	ND
Agricultural Standards			
Electrical Conductivity (EC)	<4	mmhos/cm	0.34
Sodium Adsorption Ratio (SAR)	<12		1.05
pH	6 - 9		9.22
Metals in Soils			
Arsenic	0.39	mg/kg	10.3
Barium (Total Barium)	15000	mg/kg	206
Cadmium	70	mg/kg	RL
Chromium (III)	12000	mg/kg	28.4
Chromium (VI)	23	mg/kg	ND
Copper	3100	mg/kg	17.5
Lead (inorganic)	400	mg/kg	10.5
Mercury	23	mg/kg	RL
Nickel (soluble salts)	1600	mg/kg	18.7
Selenium	390	mg/kg	RL
Silver	390	mg/kg	RL
Zinc	23000	mg/kg	48.5

April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

TABLE 11
ANALYTICAL RESULTS FOR
PIT 31A FILL AND TOPSOIL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	31A-F1	31A-F2	31A-F3	31A-F3 DUP	31A-F4	31A-TS1	31A-TS2
Organic Compounds in Soil									
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	ND	ND	ND	ND	44	ND	ND
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Anthracene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	0.0148	ND	ND	ND	0.183	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	0.0435	0.0217	ND	ND	0.462	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	0.0139	ND	ND	ND	0.226	ND	ND
Benzo(A)pyrene	0.022	mg/kg	0.0094	ND	ND	ND	0.152	ND	ND
Chrysene	22	mg/kg	0.0254	0.0129	ND	ND	0.262	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	0.126	ND	ND
Fluoranthene	1000	mg/kg	0.0196	ND	ND	ND	0.109	ND	ND
Fluorene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.0144	ND	ND	ND	0.176	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND	ND	ND	ND
Pyrene	1000	mg/kg	0.0104	ND	ND	ND	0.129	ND	ND
Agricultural Standards									
Electrical Conductivity (EC)	<4	mmhos/cm	0.333	0.201	0.104	0.813	0.296	0.302	0.313
Sodium Adsorption Ratio (SAR)	<12		1.06	0.89	0.34	0.207	0.999	0.398	0.451
pH	6 - 9		9.22	9.27	7.13	6.83	9.31	7.41	7.09
Metals in Soils									
Arsenic	0.39	mg/kg	4.4	4.6	3.2	3.2	5.3	3.3	2.9
Barium (Total Barium)	15000	mg/kg	253	264	302	283	325	261	255
Cadmium	70	mg/kg	<0.97	<1.0	<1.1	<1.0	<0.99	<0.96	<1.0
Chromium (III)	12000	mg/kg	29.2	27.3	35	32.9	47.7	33.2	33
Chromium (VI)	23	mg/kg	0.82	0.8	<0.49	<0.50	<0.50	<0.50	<0.50
Copper	3100	mg/kg	15	15	10.6	11.5	11.1	11.2	11
Lead (inorganic)	400	mg/kg	11.5	11.2	11.9	10.3	9.7	11.9	11.5
Mercury	23	mg/kg	<0.10	<0.10	<0.10	<0.098	<0.098	<0.10	<0.098
Nickel (soluble salts)	1600	mg/kg	18.5	17.4	13.7	14.1	22.9	16.4	15.7
Selenium	390	mg/kg	<4.9	<5.2	<5.3	<5.0	<5.0	<4.8	<5.1
Silver	390	mg/kg	<2.9	<3.1	<3.2	<3.0	<3.0	<2.9	<3.1
Zinc	23000	mg/kg	44	44.7	41.8	38.5	37.9	45.7	44.2

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected; NA = not analyzed

RL= constituent detected but value lower than the reporting limit

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

TABLE 12
ANALYTICAL RESULTS FOR
PIT 31A AMENDED MATERIAL SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	Average Values for Pit 31A	AM1-31A	AM2-31A	AM3-31A	AM3-31A (DUP)	AM4-31A	AM5-31
Organic Compounds in Soil									
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	92.9	ND	143.1	197	138.1	78.9	ND
Benzene	0.17	mg/kg	0.01	ND	0.042	0.0236	0.0294	ND	ND
Toluene	85	mg/kg	0.02	ND	0.079	ND	0.0751	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	0.0349	0.0421	ND	ND
Xylenes (Total)	175	mg/kg	0.03	ND	0.087	0.0856	0.107	0.103	ND
Acenaphthene	1000	mg/kg	ND	ND	ND	ND	ND	ND	ND
Anthracene	1000	mg/kg	ND	ND	0.115	0.144	0.118	0.0743	ND
Benzo(A)anthracene	0.22	mg/kg	0.02	ND	0.756	1.00	0.771	0.242	0.033
Benzo(B)fluoranthene	0.22	mg/kg	0.05	0.042	1.08	1.15	0.911	0.358	0.054
Benzo(K)fluoranthene	2.2	mg/kg	0.02	0.022	0.338	0.413	0.324	0.148	0.0269
Benzo(A)pyrene	0.022	mg/kg	0.03	0.034	0.403	0.509	0.398	0.174	0.0373
Chrysene	22	mg/kg	ND	ND	0.672	0.932	0.704	0.198	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	0.03	0.035	0.141	0.307	0.141	0.0896	0.0363
Fluoranthene	1000	mg/kg	0.03	0.031	0.986	1.27	0.895	0.276	0.0352
Fluorene	1000	mg/kg	ND	ND	0.0798	0.0982	0.0796	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.02	0.023	0.608	0.752	0.618	0.239	0.0281
Naphthalene	23	mg/kg	ND	ND	ND	0.0740	0.0734	ND	ND
Pyrene	1000	mg/kg	ND	ND	0.411	0.515	0.385	0.142	0.0232
Agricultural Standards									
Electrical Conductivity (EC)	<4	mmhos/cm	NA	NA	NA	NA	NA	NA	NA
Sodium Adsorption Ratio (SAR)	<12		NA	NA	NA	NA	NA	NA	NA
pH	6 - 9		9.20	9.07	9.16	9.24	9.33	9.21	9.17
Metals in Soils									
Arsenic	0.39	mg/kg	4.0	4.0	5.6	4.3	3.7	3.5	3.4
Barium (Total Barium)	15000	mg/kg	281	281	789	579	618	282	275
Cadmium	70	mg/kg	ND	ND	ND	ND	ND	ND	ND
Chromium (III)	12000	mg/kg	41.8	41.8	34.9	39.2	33.2	36.0	35.4
Chromium (VI)	23	mg/kg	ND	ND	ND	0.40	0.43	0.45	ND
Copper	3100	mg/kg	11.8	11.8	15.7	12.6	14.6	11.3	14.8
Lead (inorganic)	400	mg/kg	8.6	8.6	8.8	8.2	7.9	7.8	10
Mercury	23	mg/kg	ND	ND	ND	ND	ND	ND	ND
Nickel (soluble salts)	1600	mg/kg	19.5	19.5	18.1	20.8	16.3	18.8	22.5
Selenium	390	mg/kg	ND	ND	ND	ND	ND	ND	ND
Silver	390	mg/kg	ND	ND	ND	ND	ND	ND	ND
Zinc	23000	mg/kg	31.3	31.3	31.4	30.6	30.4	31.1	31.3

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected

NA = not analyzed

mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

Green indicates average results at or above the COGCC Table 910-1 limit

TABLE 13
ANALYTICAL RESULTS FOR PIT 31A SUBGRADE SAMPLES

Contaminant of Concern	COGCC Concentrations	Units	Average Values for Pit 31A	SG1-31A (1')	SG1-31ADUP (1')
Organic Compounds in Soil					
TPH (total volatile and extractable petroleum hydrocarbons)	500	mg/kg	364.7	281.7	447.6
Benzene	0.17	mg/kg	0.06	0.049	0.065
Toluene	85	mg/kg	0.11	0.098	0.127
Ethylbenzene	100	mg/kg	0.04	0.025	0.046
Xylenes (Total)	175	mg/kg	0.20	0.120	0.201
Acenaphthene	1000	mg/kg	ND	ND	ND
Anthracene	1000	mg/kg	0.12	0.085	0.151
Benzo(A)anthracene	0.22	mg/kg	0.80	0.627	0.966
Benzo(B)fluoranthene	0.22	mg/kg	1.07	0.91	1.23
Benzo(K)fluoranthene	2.2	mg/kg	0.42	0.441	0.398
Benzo(A)pyrene	0.022	mg/kg	0.45	0.354	0.552
Chrysene	22	mg/kg	0.89	0.859	0.912
Dibenzo(A,H)anthracene	0.022	mg/kg	0.23	0.081	0.375
Fluoranthene	1000	mg/kg	1.08	1.0	1.15
Fluorene	1000	mg/kg	0.08	0.07	0.1
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.63	0.368	0.895
Naphthalene	23	mg/kg	0.11	0.126	0.102
Pyrene	1000	mg/kg	0.48	0.41	0.546
Agricultural Standards					
Electrical Conductivity (EC)	<4	mmhos/cm	0.684	0.768	0.600
Sodium Adsorption Ratio (SAR)	<12		4.3	5.2	3.38
pH	6 - 9		9.43	9.41	9.45
Metals in Soils					
Arsenic	0.39	mg/kg	5.4	5.4	5.3
Barium (Total Barium)	15000	mg/kg	794	792	796.0
Cadmium	70	mg/kg	ND	0	0
Chromium (III)	12000	mg/kg	23.4	24.2	22.6
Chromium (VI)	23	mg/kg	ND	0	0
Copper	3100	mg/kg	18.2	17.7	18.6
Lead (inorganic)	400	mg/kg	8.2	8.2	8.1
Mercury	23	mg/kg	ND	0	0
Nickel (soluble salts)	1600	mg/kg	15.5	14.9	16.0
Selenium	390	mg/kg	ND	0	0
Silver	390	mg/kg	ND	0	0
Zinc	23000	mg/kg	31.3	31.3	31.2

COGCC Concentrations from Table 910-1 of *COGCC Final Amended Rules* effective April 1, 2009

ND = not detected

NA = not analyzed

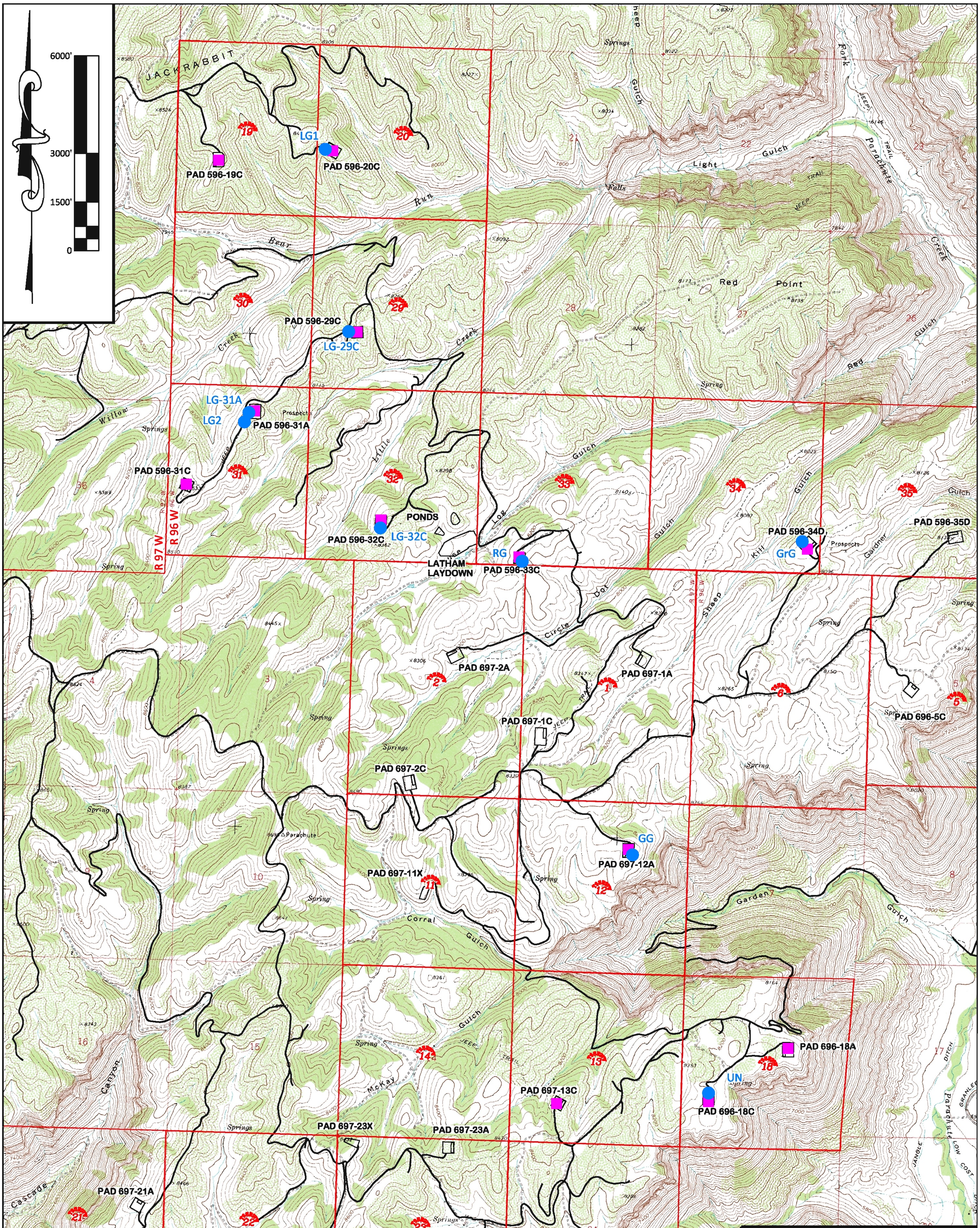
mg/kg = milligrams per kilogram; mmhos/cm = millimhos per centimeter

Yellow indicates individual results at or above the COGCC Table 910-1 limit

Green indicates average results at or above the COGCC Table 910-1 limit

Golder Associates

FIGURES



LEGEND

BACKGROUND ARSENIC SAMPLE LOCATION

PIT SAMPLING AREA

PUBLIC LAND SURVEY (PLSS)

WILLIAM H. SMITH & ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

MARATHON OIL COMPANY
PO BOX 3128, HOUSTON TX, 77253
5555 SAN FELIPE, HOUSTON TX, 77056

MARATHON PICEANCE ASSET PITS

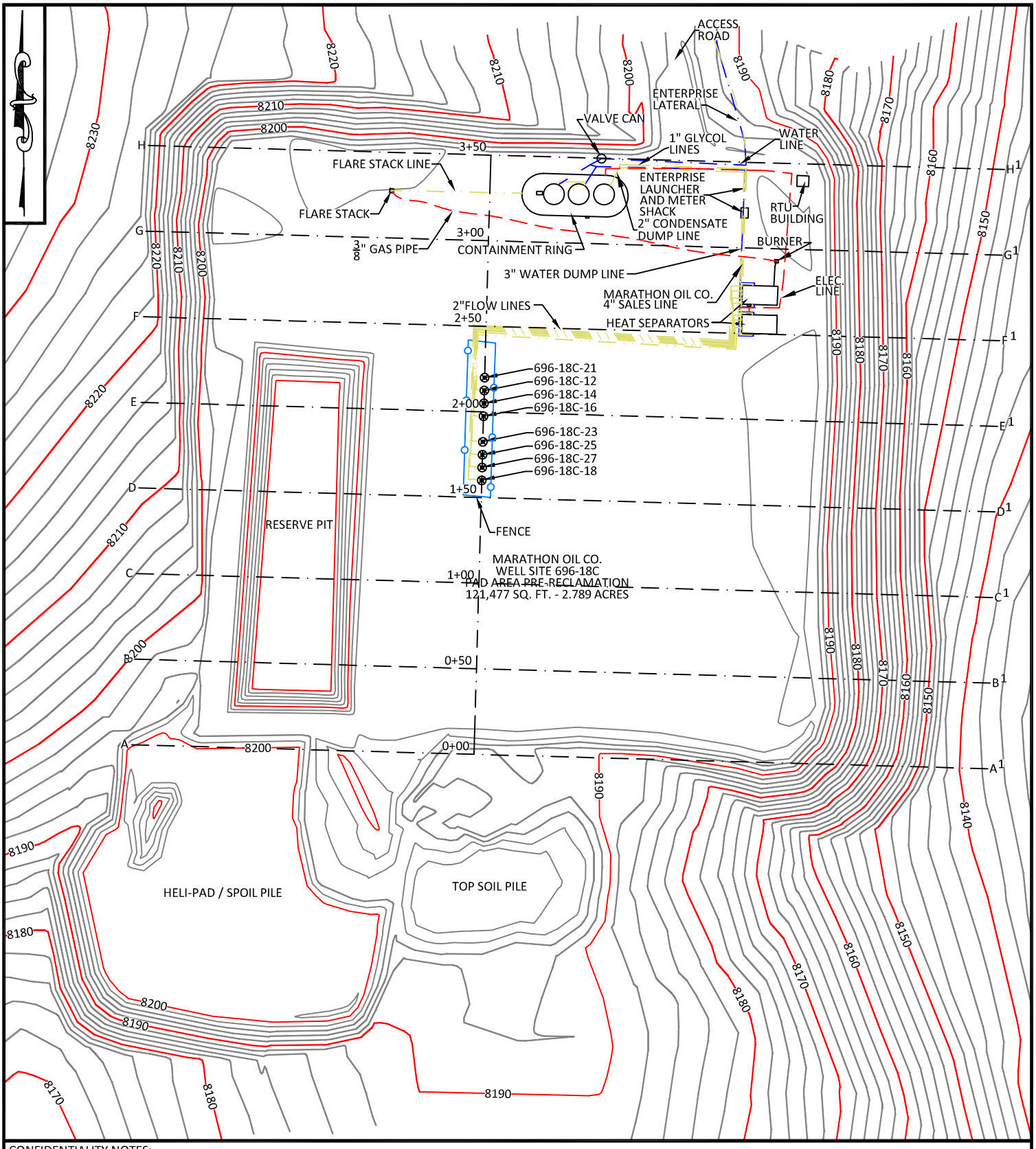
DRAWN BY: DTW	CHECKED BY: CED
PROJECT NO: N/A	JOB NO: 26099
SCALE: 1"=3000'	EXHIBIT "A"
DATE: 05/03/2011	SHEET 1 OF 1
REVISIONS:	

FIGURE 1

APPENDIX A
PIT/PAD RECLAMATION DRAWINGS

APPENDIX A-1

PIT/PAD 18C



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GREEN RIVER, WY
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307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

DATA

PAD AREA PRE-RECLAMATION
121,477 SQ. FT. - 2.789 ACRES

LOCATION:

696-18C
WITHIN THE SW/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

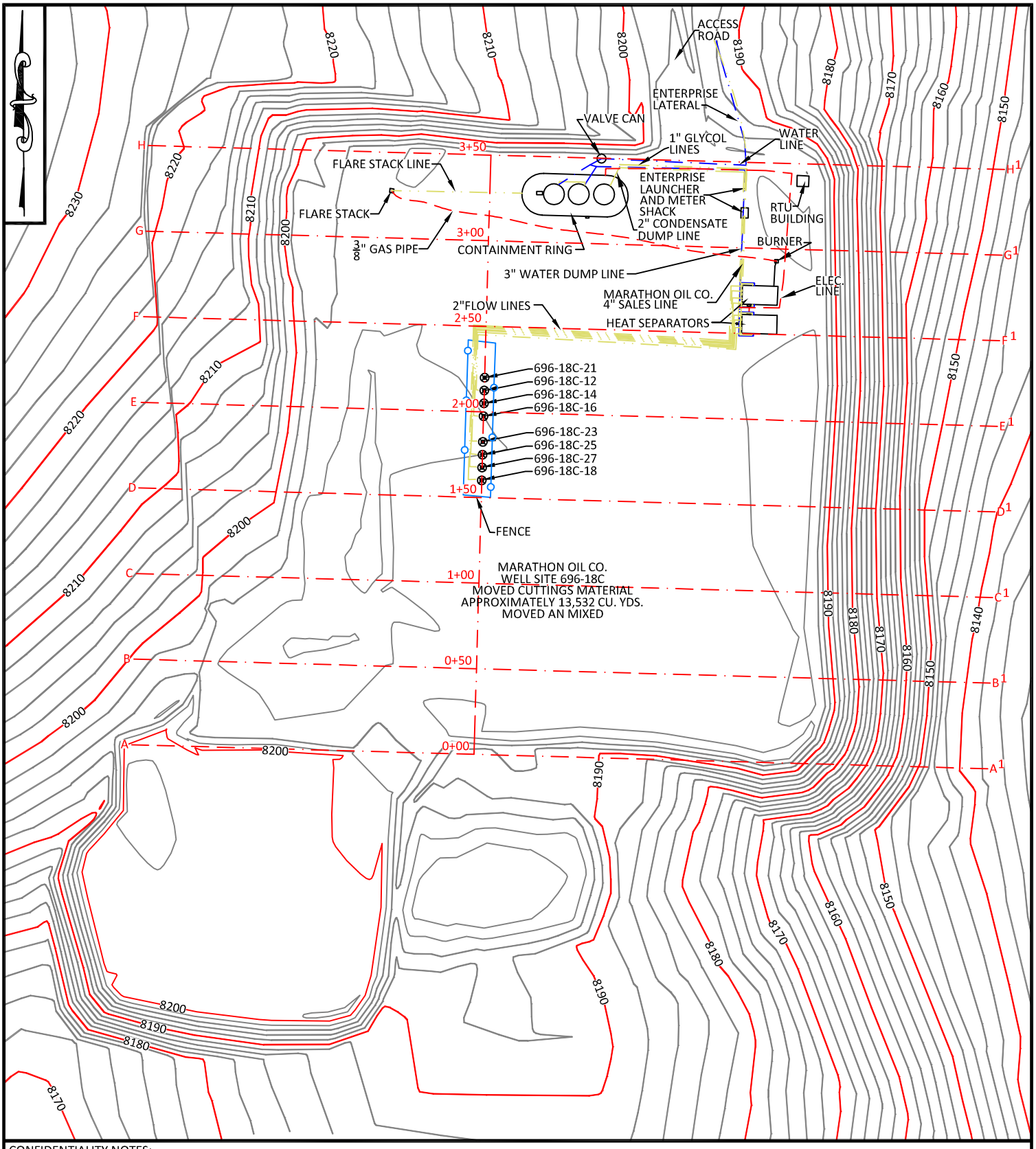
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

AS-BUILT PAD

SCALE: 1"=80'	EXHIBIT "A"
DATE: 11/12/2010	SHEET 1 OF 5

C:DATA/COLORADO/696-18C/INTERIM RECLAMATION/FINAL REPORT.DWG



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307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

DATA

MOVED CUTTINGS MATERIAL
APPROXIMATELY 13,532 CU. YDS.
MOVED AN MIXED

LOCATION:

696-18C
WITHIN THE SW/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

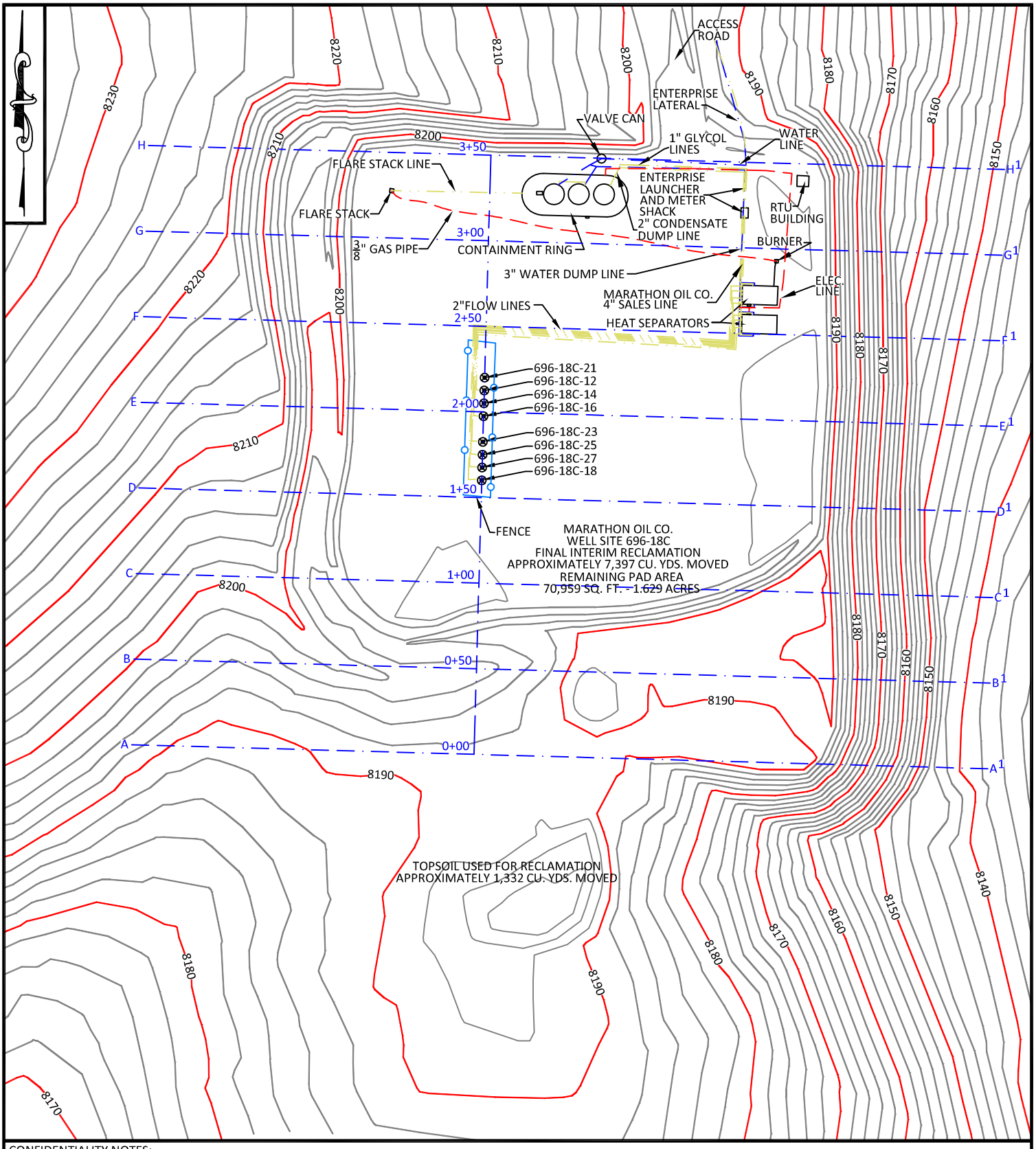
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

MOVED AND MIXED CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "B"
DATE: 11/12/2010	SHEET 2 OF 5

C:DATA/COLORADO/696-18C/INTERIM RECLAMATION/FINAL REPORT.DWG



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DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

DATA

FINAL INTERIM RECLAMATION
APPROXIMATELY 7,397 CU. YDS. MOVED

TOPSOIL USED FOR RECLAMATION
APPROXIMATELY 1,332 CU. YDS. MOVED

REMAINING PAD AREA
70,959 SQ. FT. - 1.629 ACRES

LOCATION:

696-18C
WITHIN THE SW/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

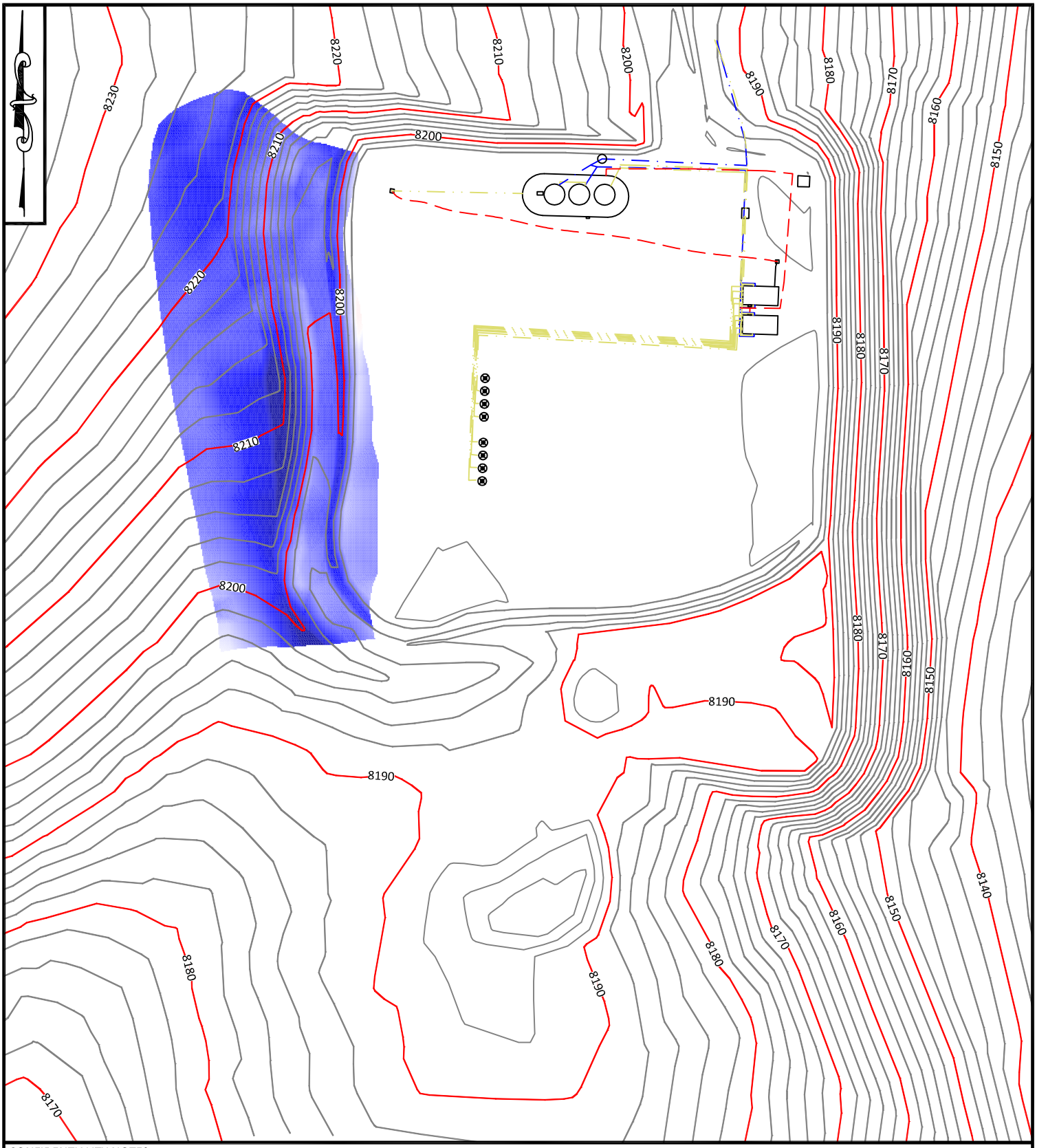
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

FINAL INTERIM RECLAMATION
AS-BUILT

SCALE: 1"=80'	EXHIBIT "C"
DATE: 11/12/2010	SHEET 3 OF 5

C:DATA/COLORADO/696-18C/INTERIM RECLAMATION/FINAL REPORT.DWG



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DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

COVERAGE IN FEET

0.50 TO 1.00	4.00 TO 4.50
1.00 TO 1.50	4.50 TO 5.00
1.50 TO 2.00	5.00 TO 5.50
2.00 TO 2.50	5.50 TO 6.00
2.50 TO 3.00	6.00 TO 6.50
3.00 TO 3.50	6.50 TO 7.00
3.50 TO 4.00	7.00+

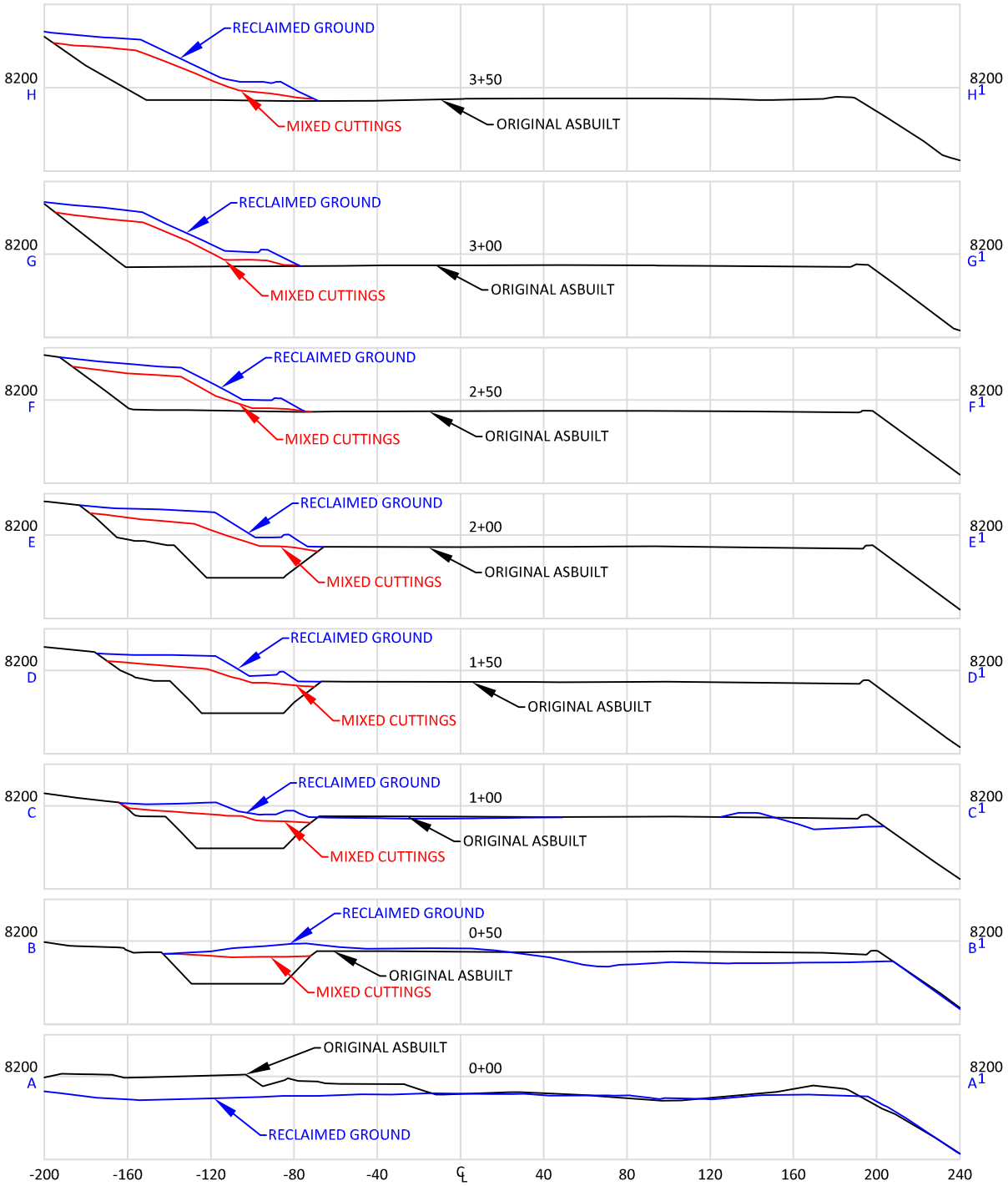
LOCATION:
696-18C
WITHIN THE SW/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

COVERAGE OVER
CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "C"
DATE: 11/12/2010	SHEET 4 OF 5

C:DATA/COLORADO/696-18C/INTERIM RECLAMATION/FINAL REPORT.DWG



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WILLIAM H. SMITH
& ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

LEGEND
- ORIGINAL ASBUILT
- RECLAIMED GROUND
- MIXED CUTTINGS

LOCATION:
696-18C
WITHIN THE SW/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

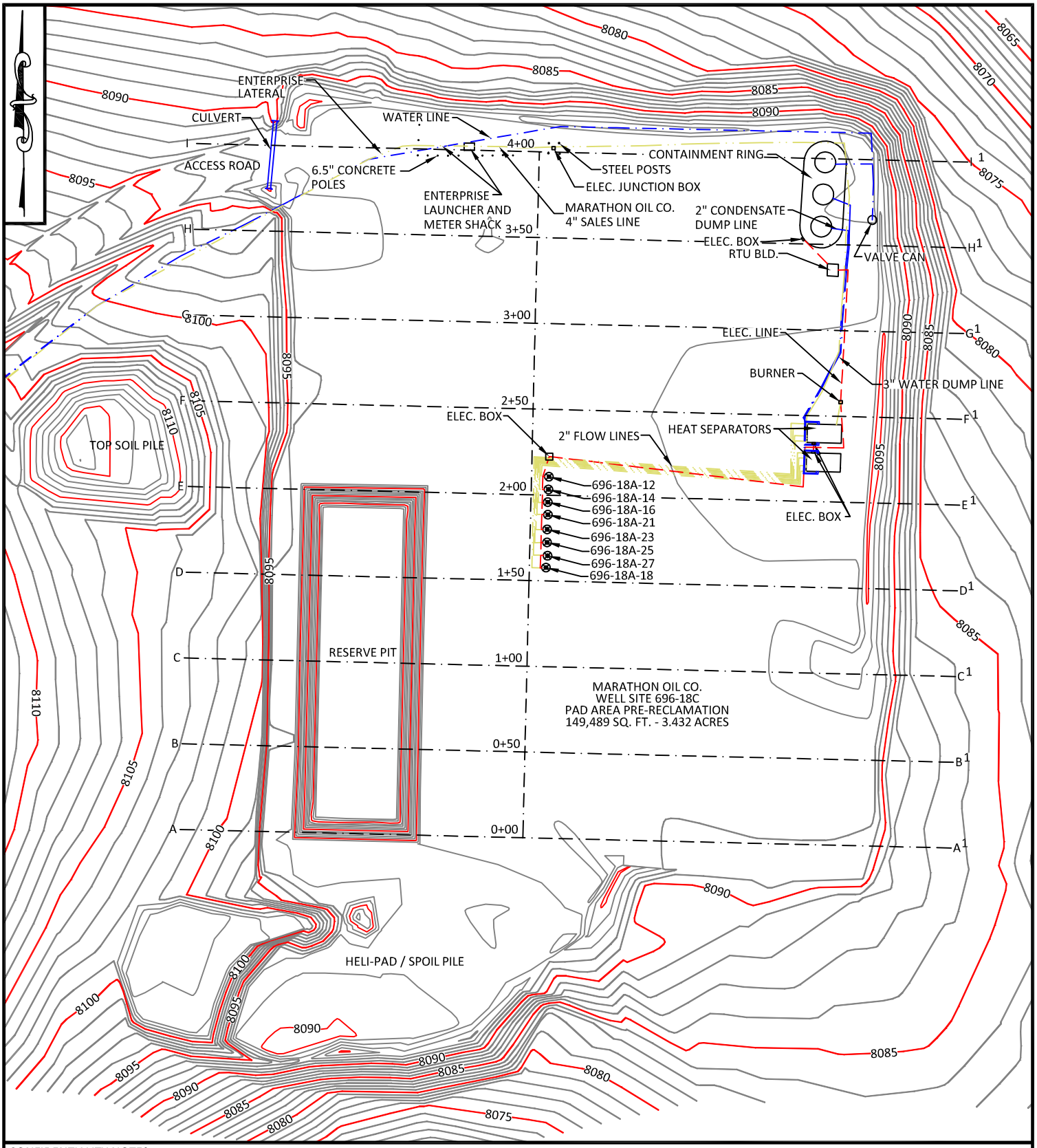
CROSS SECTIONS

SCALE: 1"=80'	EXHIBIT "D"
DATE: 11/12/2010	SHEET 5 OF 5

C:DATA/COLORADO/696-18C/INTERIM RECLAMATION/FINAL REPORT.DWG

APPENDIX A-2

PIT/PAD 18A



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550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

DATA

PAD AREA PRE-RECLAMATION
149,489 SQ. FT. - 3.432 ACRES

LOCATION:

696-18A
WITHIN THE NE/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

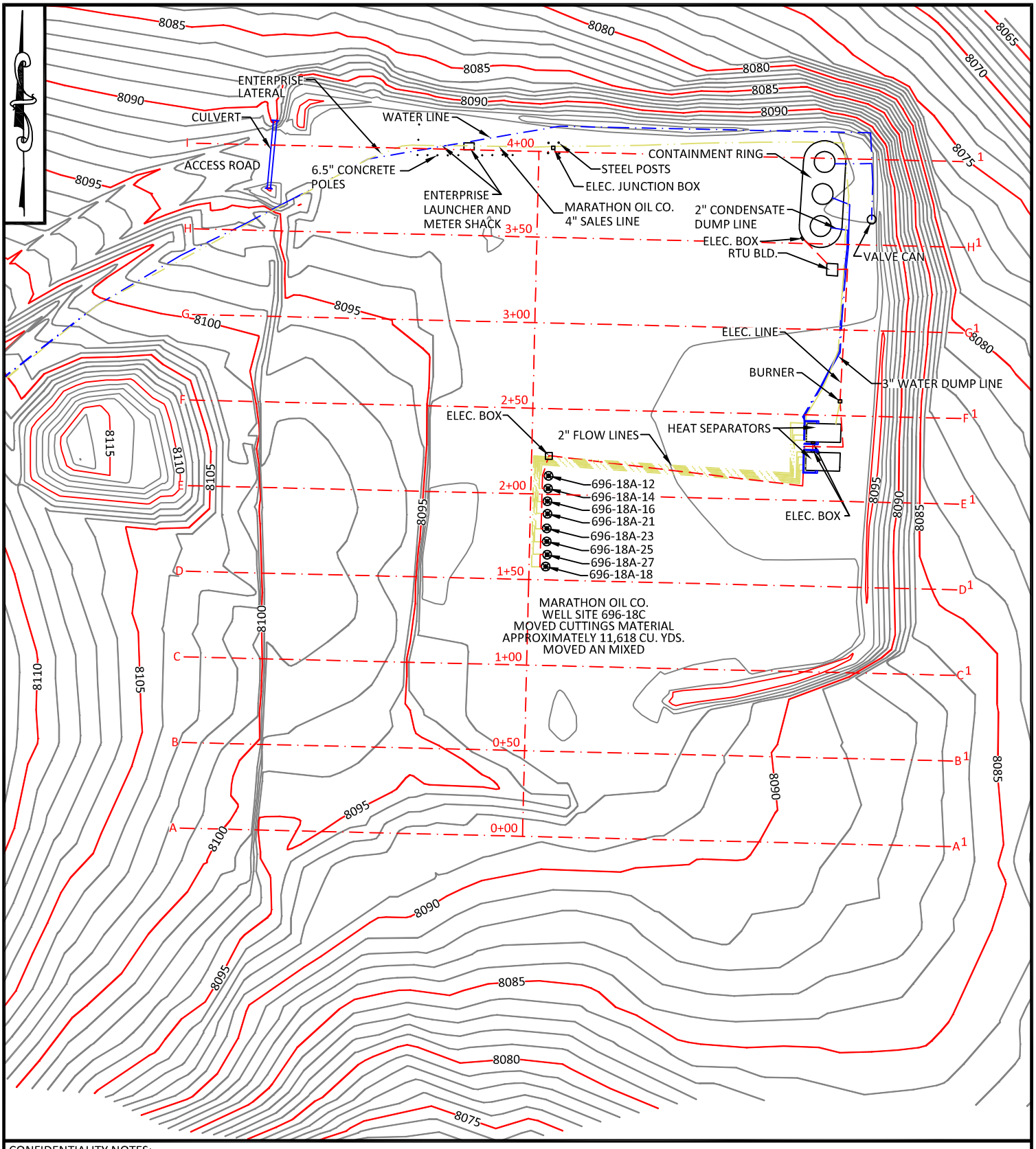
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

AS-BUILT PAD

SCALE: 1"=80'	EXHIBIT "A"
DATE: 11/16/2010	SHEET 1 OF 5

C:DATA/COLORADO/696-18A/INTERIM RECLAMATION/FINAL REPORT.DWG



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GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

DATA

MOVED CUTTINGS MATERIAL
APPROXIMATELY 11,618 CU. YDS.
MOVED AN MIXED

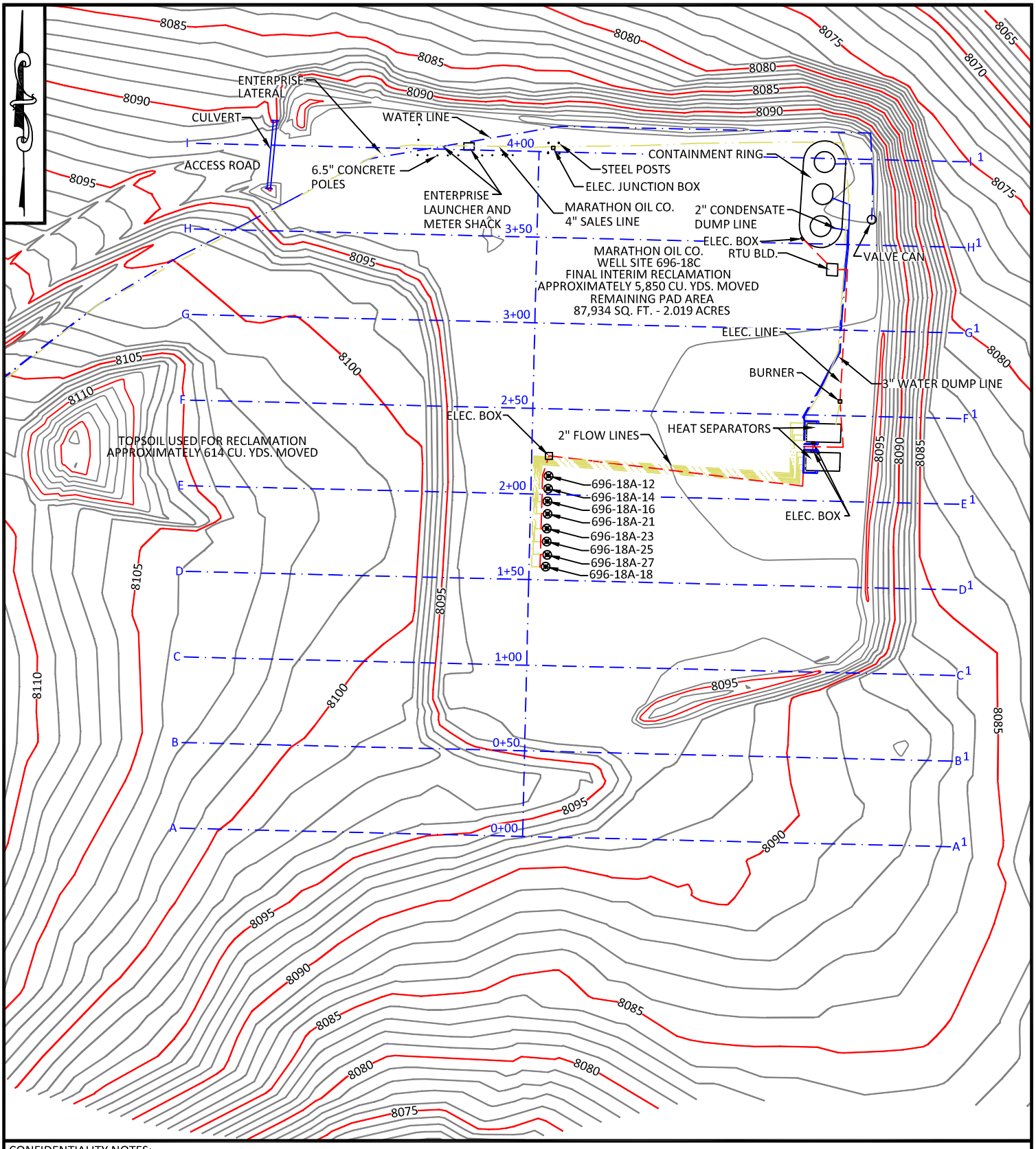
LOCATION:
696-18A
WITHIN THE NE/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

MOVED AND MIXED CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "B"
DATE: 11/12/2010	SHEET 2 OF 5

C:DATA/COLORADO/696-18A/INTERIM RECLAMATION/FINAL REPORT.DWG



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GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

DATA

FINAL INTERIM RECLAMATION
APPROXIMATELY 5,850 CU. YDS. MOVED

TOPSOIL USED FOR RECLAMATION
APPROXIMATELY 614 CU. YDS. MOVED

REMAINING PAD AREA
87,934 SQ. FT. - 2.019 ACRES

LOCATION:

696-18A
WITHIN THE NE/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

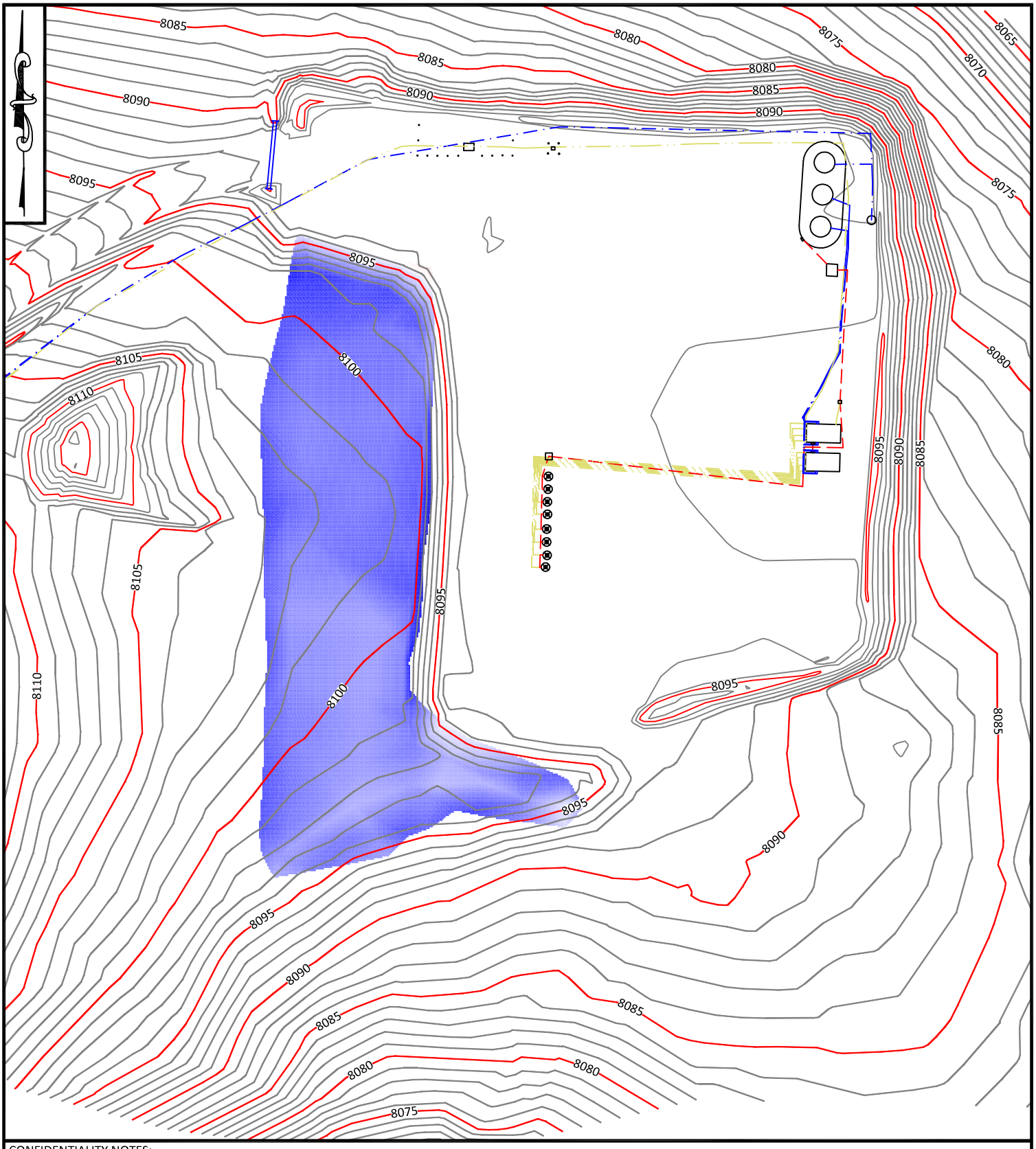
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

FINAL INTERIM RECLAMATION
AS-BUILT

SCALE: 1"=80'	EXHIBIT "C"
DATE: 11/12/2010	SHEET 3 OF 5

C:DATA/COLORADO/696-18A/INTERIM RECLAMATION/FINAL REPORT.DWG



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GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

COVERAGE IN FEET

0.50 TO 1.00	4.00 TO 4.50
1.00 TO 1.50	4.50 TO 5.00
1.50 TO 2.00	5.00 TO 5.50
2.00 TO 2.50	5.50 TO 6.00
2.50 TO 3.00	6.00 TO 6.50
3.00 TO 3.50	6.50 TO 7.00
3.50 TO 4.00	7.00+

LOCATION:

696-18A
WITHIN THE NE/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

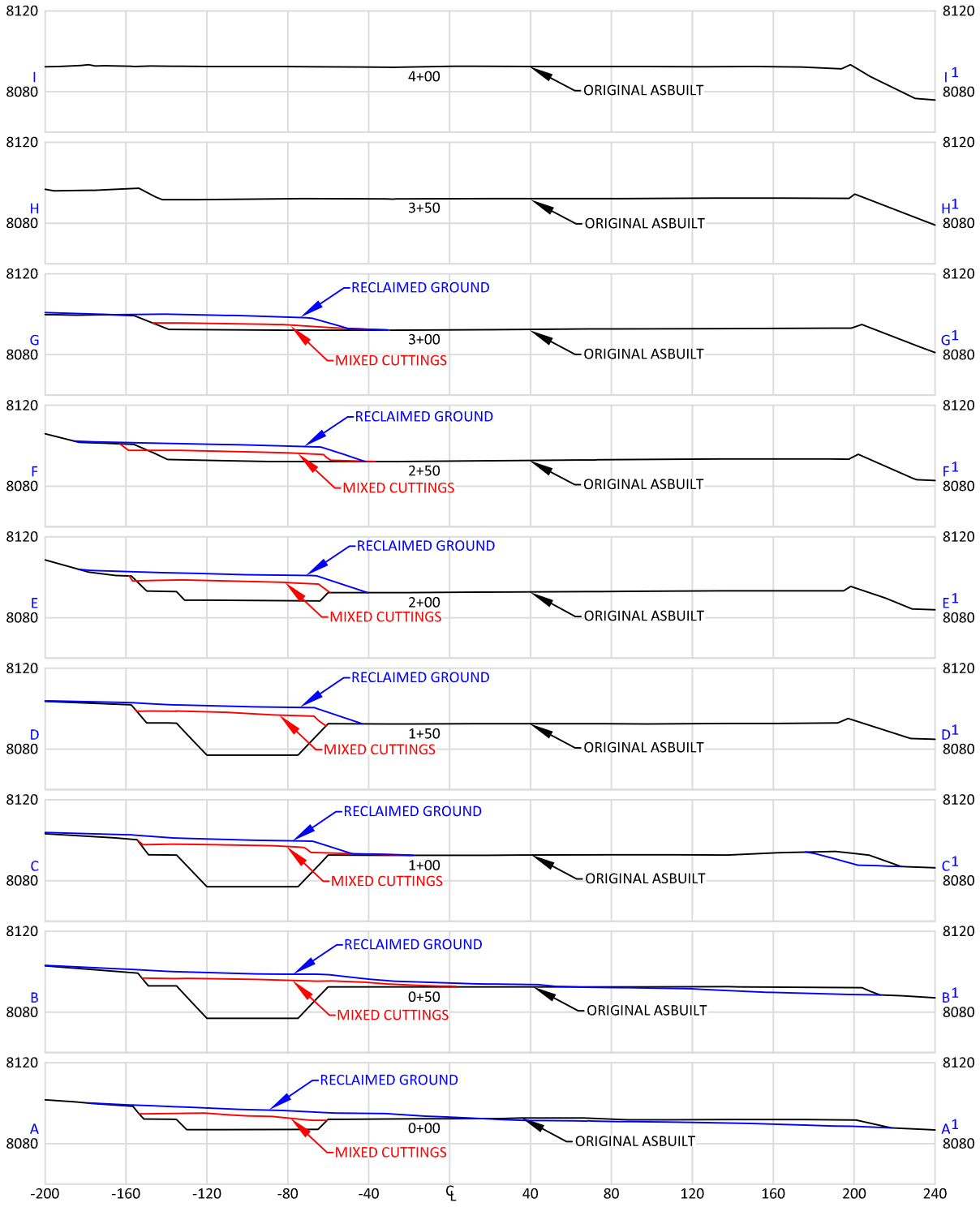
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

COVERAGE OVER
CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "C"
DATE: 11/12/2010	SHEET 4 OF 5

C:DATA/COLORADO/696-18A/INTERIM RECLAMATION/FINAL REPORT.DWG



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650 EAST SECOND NORTH
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307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 2010011	PROJECT NO: N/A
REVISIONS:	

LEGEND
- ORIGINAL ASBUILT
- RECLAIMED GROUND
- MIXED CUTTINGS

LOCATION:
696-18A
WITHIN THE NE/4
SECTION 18,
T 6 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

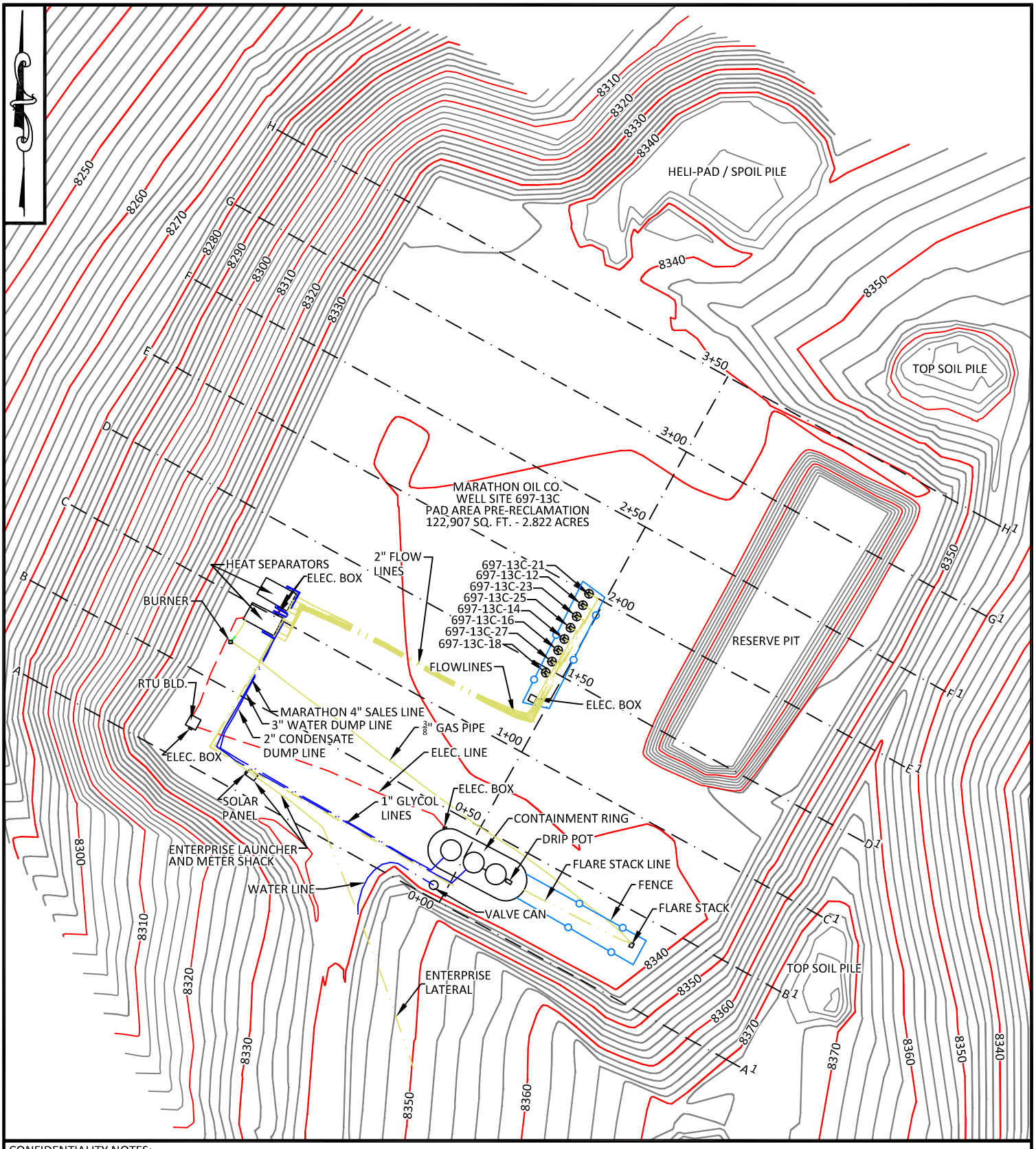
CROSS SECTIONS

SCALE: 1"=80'	EXHIBIT "D"
DATE: 11/12/2010	SHEET 5 OF 5

C:DATA/COLORADO/696-18A/INTERIM RECLAMATION/FINAL REPORT.DWG

APPENDIX A-3

PIT/PAD 13C



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GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

DATA

PAD AREA PRE-RECLAMATION
122,907 SQ. FT. - 2.822 ACRES

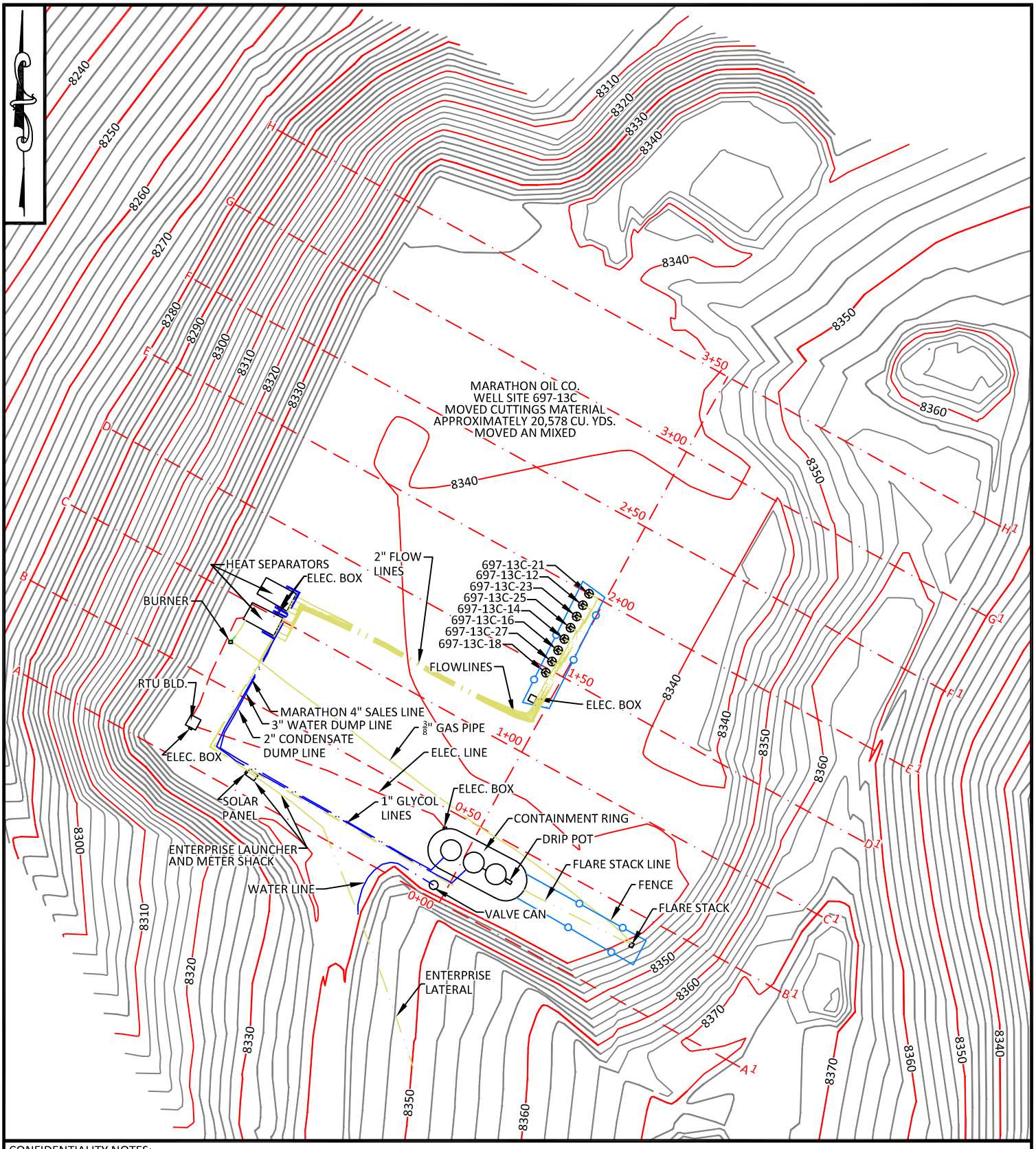
LOCATION:
697-13C
WITHIN THE SW/4
SECTION 13,
T 6 S, R 97 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

AS-BUILT PAD

SCALE: 1"=80'	EXHIBIT "A"
DATE: 01/14/2011	SHEET 1 OF 5

C:DATA/COLORADO/696-13C/INTERIM RECLAMATION/FINAL REPORT.DWG



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SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

DATA

MOVED CUTTINGS MATERIAL
APPROXIMATELY 20,578 CU. YDS.
MOVED AN MIXED

LOCATION:

697-13C
WITHIN THE SW/4
SECTION 13,
T 6 S, R 97 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

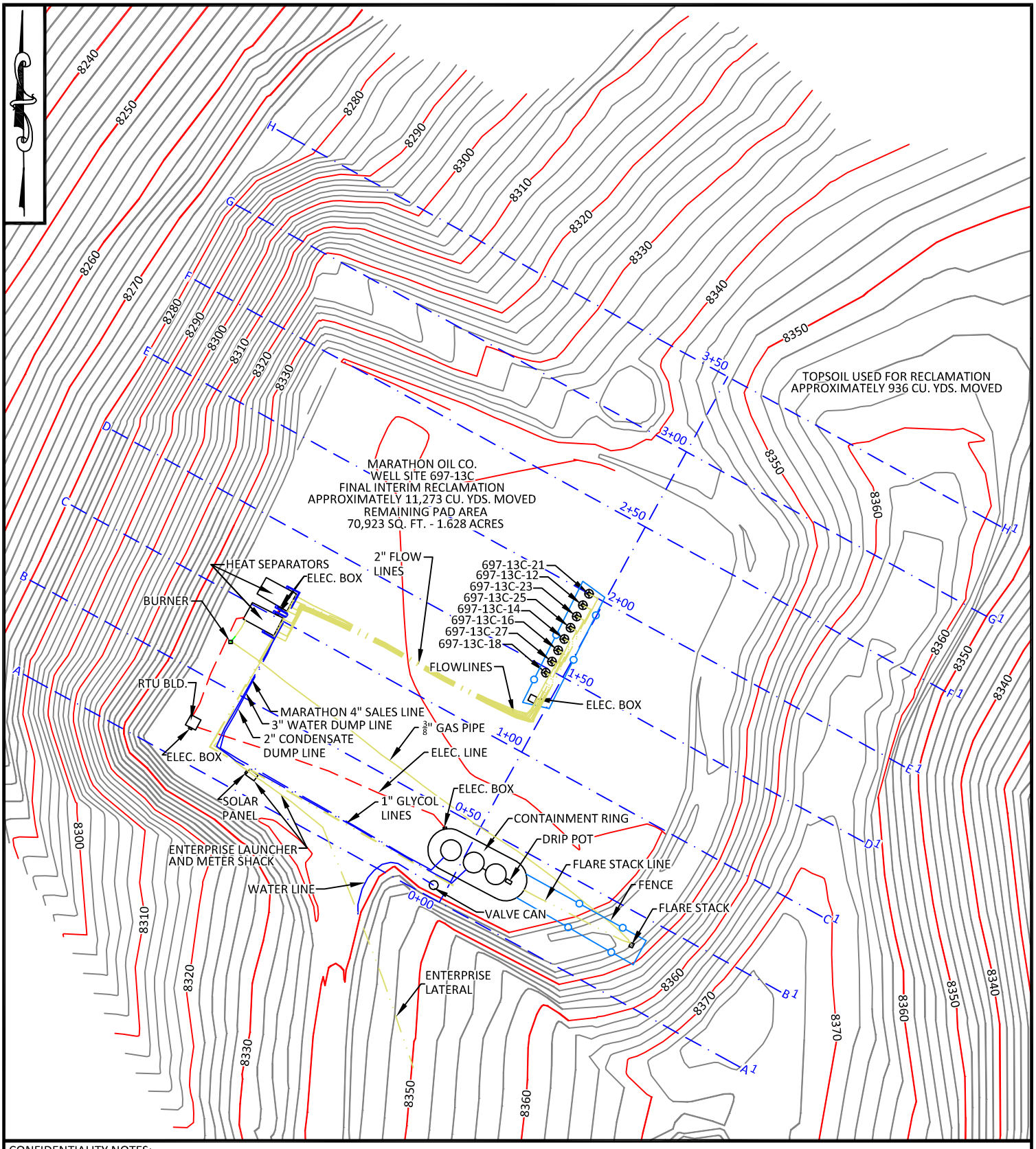
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

MOVED AND MIXED CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "B"
DATE: 01/14/2011	SHEET 2 OF 5

C:DATA/COLORADO/696-13C/INTERIM RECLAMATION/FINAL REPORT.DWG



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SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

DATA

FINAL INTERIM RECLAMATION
APPROXIMATELY 11,273 CU. YDS. MOVED

TOPSOIL USED FOR RECLAMATION
APPROXIMATELY 936 CU. YDS. MOVED

REMAINING PAD AREA
70,923 SQ. FT. - 1.628 ACRES

LOCATION:

697-13C
WITHIN THE SW/4
SECTION 13,
T 6 S, R 97 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

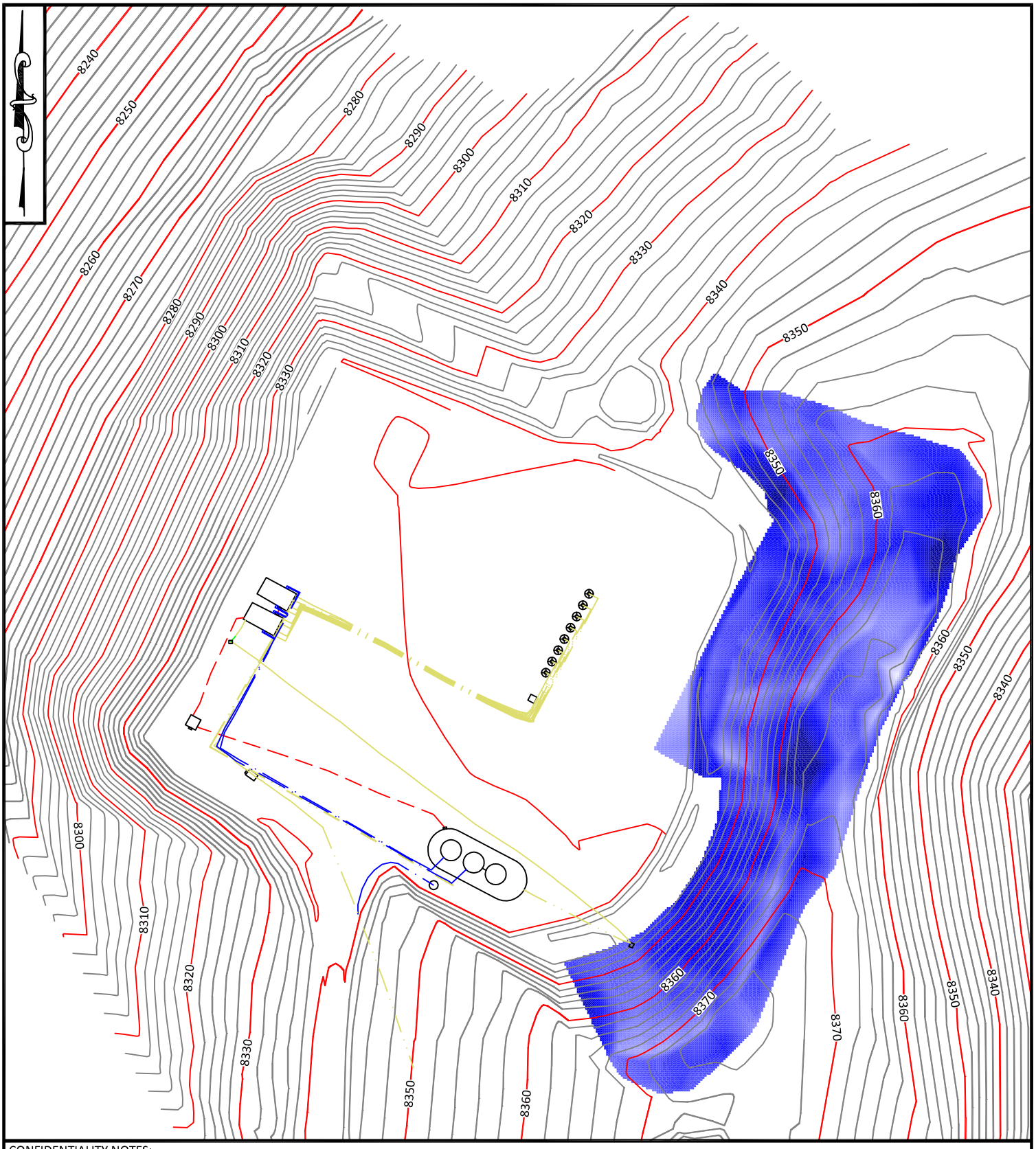
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

FINAL INTERIM RECLAMATION
AS-BUILT

SCALE: 1"=80'	EXHIBIT "C"
DATE: 01/14/2011	SHEET 3 OF 5

C:DATA/COLORADO/696-13C/INTERIM RECLAMATION/FINAL REPORT.DWG



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SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

COVERAGE IN FEET

0.50 TO 1.00	4.00 TO 4.50
1.00 TO 1.50	4.50 TO 5.00
1.50 TO 2.00	5.00 TO 5.50
2.00 TO 2.50	5.50 TO 6.00
2.50 TO 3.00	6.00 TO 6.50
3.00 TO 3.50	6.50 TO 7.00
3.50 TO 4.00	7.00+

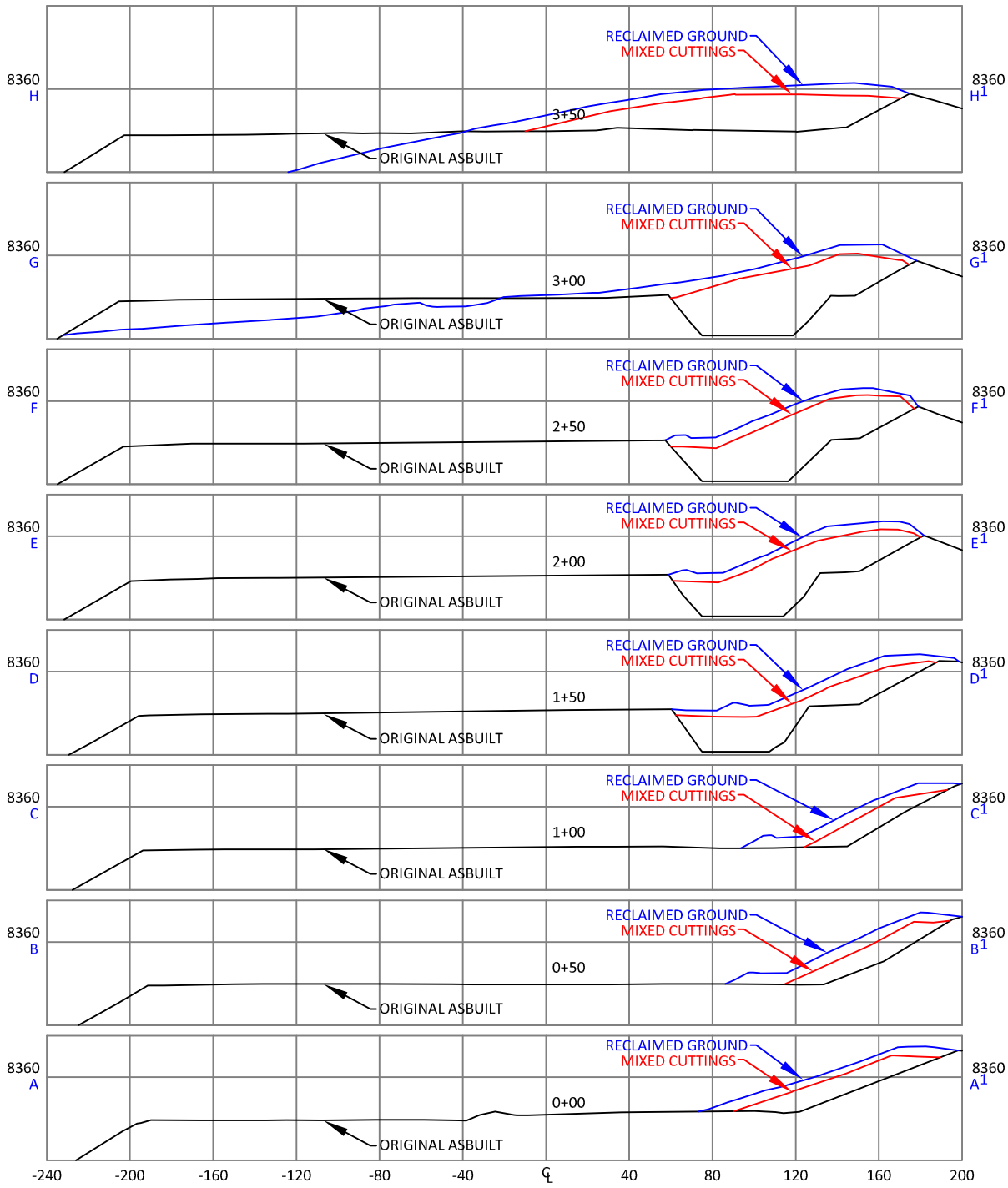
LOCATION:
697-13C
WITHIN THE SW/4
SECTION 13,
T 6 S, R 97 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

COVERAGE OVER
CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "D"
DATE: 01/14/2011	SHEET 4 OF 5

C:DATA/COLORADO/696-13C/INTERIM RECLAMATION/FINAL REPORT.DWG



WILLIAM H. SMITH
& ASSOCIATES P.C.
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550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

COVERAGE IN FEET
- ORIGINAL ASBUILT
- RECLAIMED GROUND
- MIXED CUTTINGS

LOCATION:
697-13C
WITHIN THE SW/4
SECTION 13,
T 6 S, R 97 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

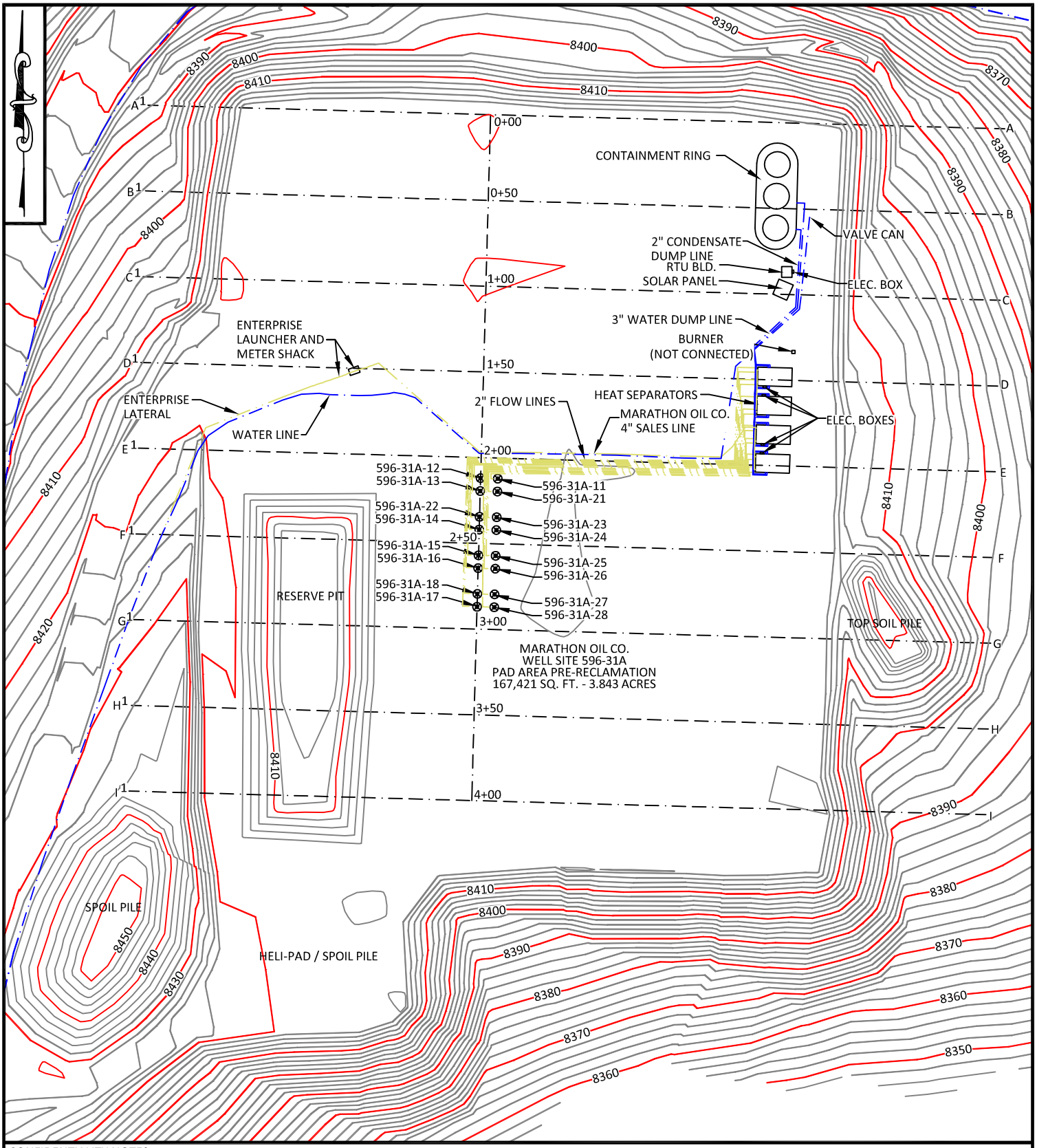
CROSS SECTIONS

SCALE: 1"=80'	EXHIBIT "E"
DATE: 01/14/2011	SHEET 5 OF 5

C:DATA/COLORADO/696-13C/INTERIM RECLAMATION/FINAL REPORT.DWG

APPENDIX A-4

PIT/PAD 31A



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SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

DATA

PAD AREA PRE-RECLAMATION
122,907 SQ. FT. - 2.822 ACRES

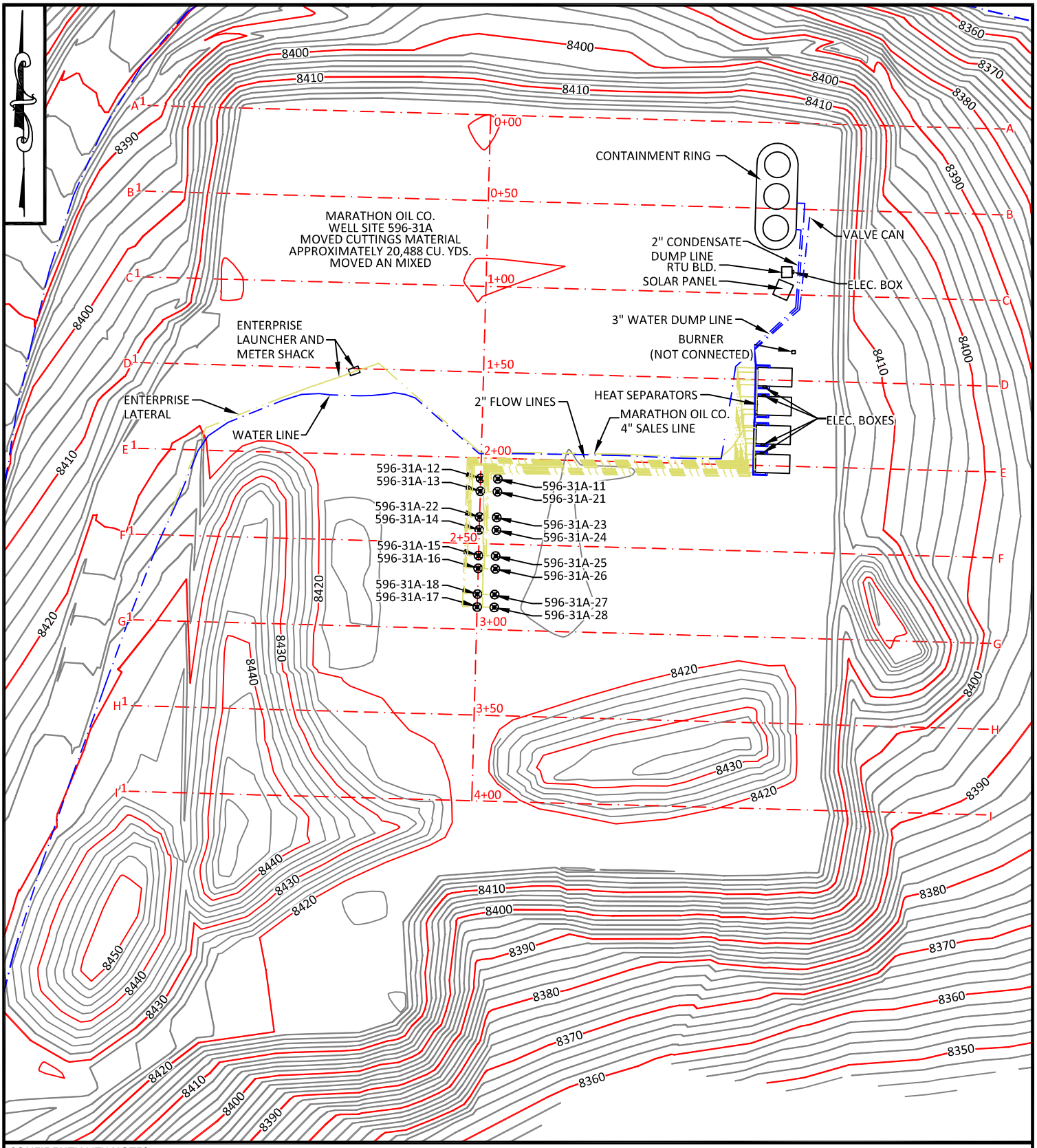
LOCATION:
596-31A
WITHIN THE NE/4
SECTION 31,
T 5 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

AS-BUILT PAD

SCALE: 1"=80'	EXHIBIT "A"
DATE: 02/23/2011	SHEET 1 OF 5

C:DATA/COLORADO/596-31A/INTERIM RECLAMATION/FINAL REPORT.DWG



WILLIAM H. SMITH
& ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

DATA

MOVED CUTTINGS MATERIAL
APPROXIMATELY 20,488 CU. YDS.
MOVED AN MIXED

LOCATION:

596-31A
WITHIN THE NE/4
SECTION 31,
T 5 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

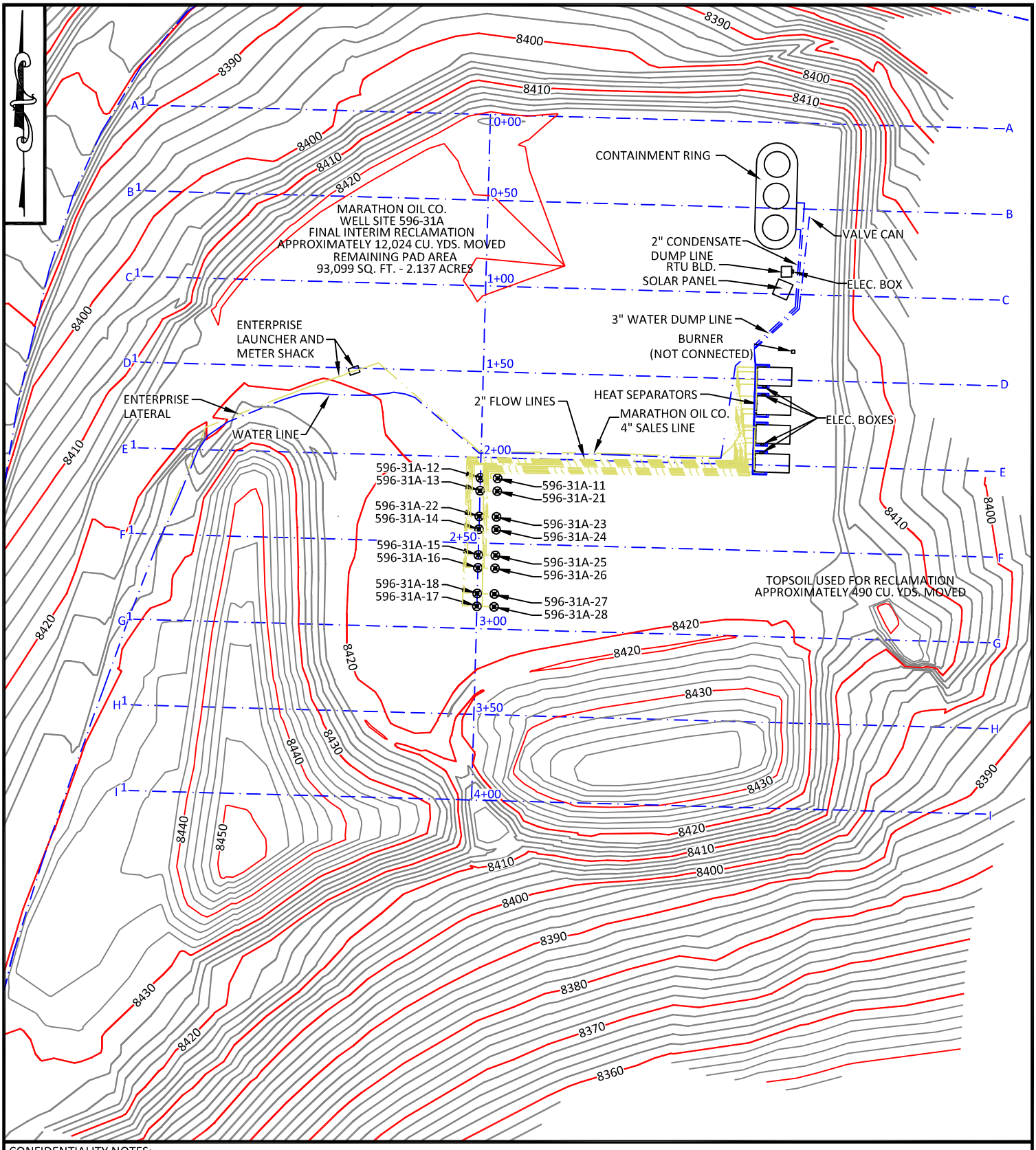
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

MOVED AND MIXED CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "B"
DATE: 02/23/2011	SHEET 2 OF 5

C:DATA/COLORADO/596-31A/INTERIM RECLAMATION/FINAL REPORT.DWG



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550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

DATA

FINAL INTERIM RECLAMATION
APPROXIMATELY 12,024 CU. YDS. MOVED

TOPSOIL USED FOR RECLAMATION
APPROXIMATELY 490 CU. YDS. MOVED

REMAINING PAD AREA
93,099 SQ. FT. - 2.137 ACRES

LOCATION:

596-31A
WITHIN THE NE/4
SECTION 31,
T 5 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

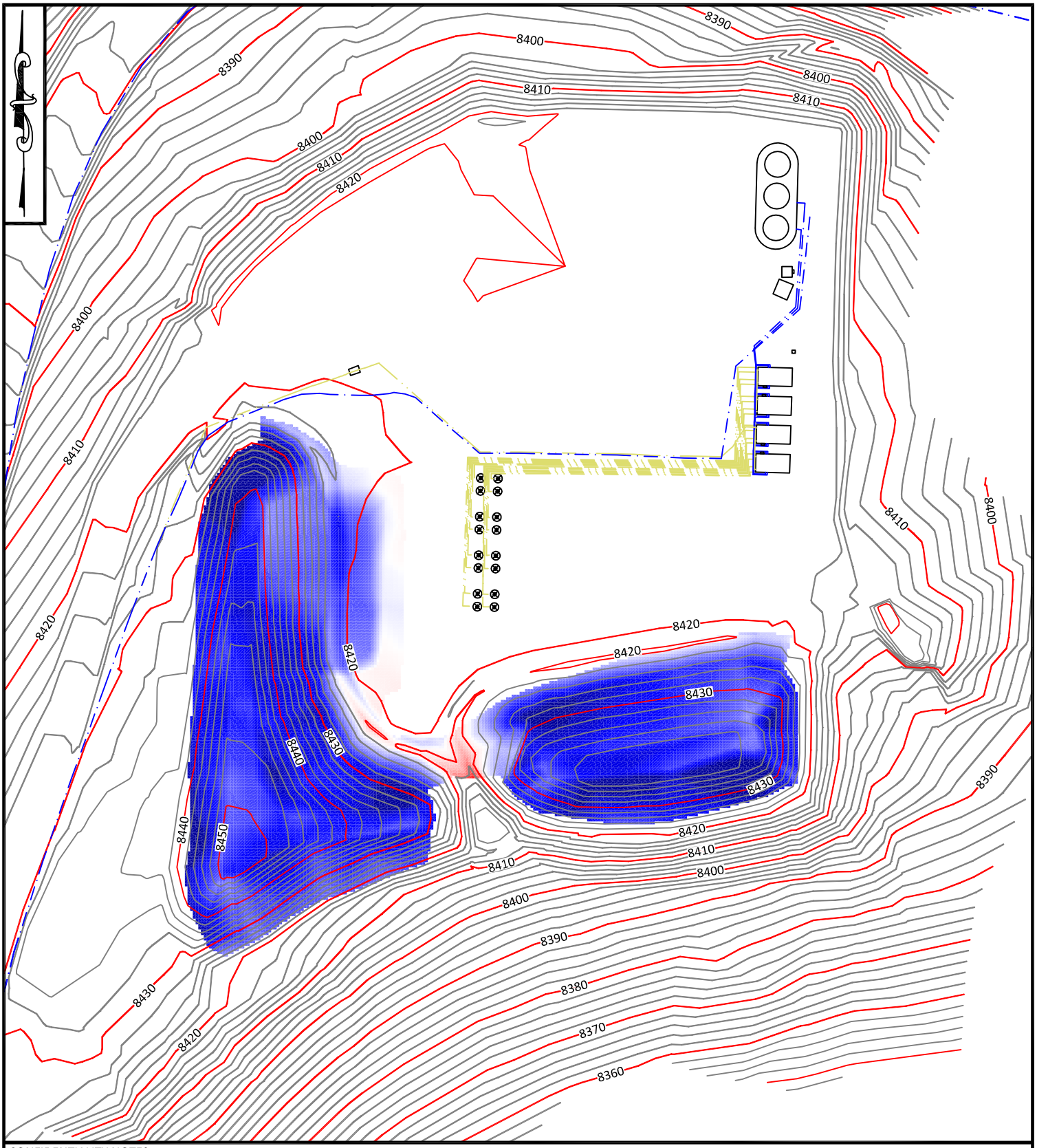
MARATHON OIL COMPANY

P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

FINAL INTERIM RECLAMATION
AS-BUILT

SCALE: 1"=80'	EXHIBIT "C"
DATE: 02/23/2011	SHEET 3 OF 5

C:DATA/COLORADO/596-31A/INTERIM RECLAMATION/FINAL REPORT.DWG



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550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

COVERAGE IN FEET

0.50 TO 1.00	4.00 TO 4.50
1.00 TO 1.50	4.50 TO 5.00
1.50 TO 2.00	5.00 TO 5.50
2.00 TO 2.50	5.50 TO 6.00
2.50 TO 3.00	6.00 TO 6.50
3.00 TO 3.50	6.50 TO 7.00
3.50 TO 4.00	7.00+

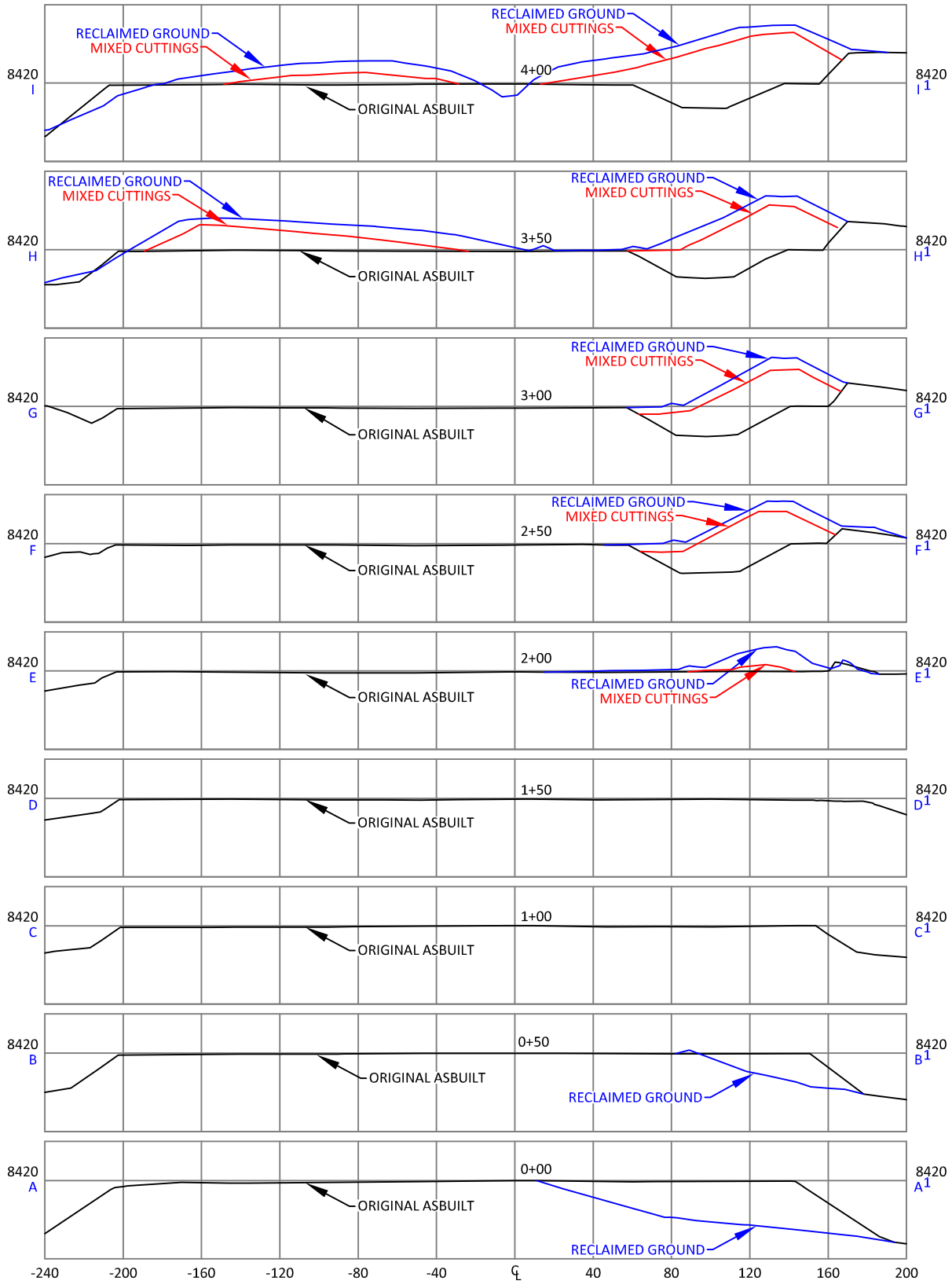
LOCATION:
596-31A
WITHIN THE NE/4
SECTION 31,
T 5 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

COVERAGE OVER
CUTTINGS MATERIAL

SCALE: 1"=80'	EXHIBIT "D"
DATE: 02/23/2011	SHEET 4 OF 5

C:DATA/COLORADO/596-31A/INTERIM RECLAMATION/FINAL REPORT.DWG



CONFIDENTIALITY NOTES:
THE INFORMATION CONTAINED IN THIS PLOT IS LEGALLY PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE RECIPIENTS. IF YOU ARE NOT THE INTENDED RECIPIENTS, YOU ARE HEREBY NOTIFIED THAT ANY USE, DISSEMINATION, DISTRIBUTION OR COPYING OF THIS INFORMATION IS STRICTLY PROHIBITED.

WILLIAM H. SMITH
& ASSOCIATES P.C.
SURVEYING CONSULTANTS
550 EAST SECOND NORTH
GREEN RIVER, WY
PHONE: 307-875-3638
307-875-3639
www.whsmithpc.com

DRAWN BY: CED	CHECKED BY: WHD
JOB NO: 26099	PROJECT NO: N/A
REVISIONS:	

COVERAGE IN FEET
- ORIGINAL ASBUILT
- RECLAIMED GROUND
- MIXED CUTTINGS

LOCATION:
596-31A
WITHIN THE NE/4
SECTION 31,
T 5 S, R 96 W,
6TH PM.
GARFIELD COUNTY,
COLORADO

MARATHON OIL COMPANY
P.O. BOX 3128
HOUSTON, TX 77253
5555 SAN FELIPE
HOUSTON, TX 77056

CROSS SECTIONS

SCALE: 1"=80'	EXHIBIT "E"
DATE: 02/23/2011	SHEET 5 OF 5

C:DATA/COLORADO/596-31A/INTERIM RECLAMATION/FINAL REPORT.DWG

APPENDIX B
ANALYTICAL TESTING RESULTS FROM MATERIAL SAMPLING

APPENDIX C
REPRESENTATIVE PHOTOGRAPHS

Photo 1(a), 1(b), and 1(c): Remixing of Staged Amended Material on Pad 18A (10122010)

Notes: Photo 1(a), 1(b) and 1(c) show remixing activities of the staged amended material pile on Pad 18A. The track-hoe is removing previously amended material from the staged pile and the bulldozer is mixing and staging the amended materials with additional clean fill material. The loader is supplying material to the operation.

Photo 2: 18A Amended Material Stock Pile (09292010)

Notes: Photo 2 shows a staged amended material pile after the first mixing.

Photo 3: 13C Amending Pit Materials (09292010)

Notes: Photo 3 shows the excavator digging the temporary mixing basin where clean fill, staged to the left, will be mixed with pit solids. The pit is located directly behind the track-hoe. Jersey barriers (concrete barricades) were placed around production facilities and in areas where machinery operated to help with the flow of traffic and ensure safety.

Photo 4: 13C Amending Pit Materials (09292010)

Notes: Photo 4 shows the initial activities related to removing, amending, and staging pit solids. Clean fill material was staged (large pile under the bulldozer) for use in mixing. Pit solids were removed from the pit by a track-hoe and placed in a temporary mixing basin. Clean fill material was then added by the track-hoe. This amended material was then removed from the temporary mixing basin and staged. The beginning of the staged pile can be seen on the left.

Photo 5: 13C Staging Amended Pit Materials (09292010)

Notes: Photo 5 shows the beginning of a staged amended material pile. Amended materials were staged in lifts to assist with drying and ensure that mixing was complete.

Photo 6: 13C Amended Soil Stock Piles (10122010)

Notes: Photo 6 shows the final staged amended material pile ready for confirmatory sampling.

Photo 7: Amended Material Stockpiles on Pad 31A (01052011)

Notes: In Photo 7, the large snow covered pile in the background and the freshly staged pile in the mid-ground are both stockpiles of amended material located on Pad 31A.

Photo 8: Pad 18A Empty Reserve Pit (09292010)

Notes: Photo 8 shows the emptied drilling reserve pit, after the liner and drilling materials had been removed. The subgrade of the pit, below where the liner was located, was then sampled to ensure that there had been no leakage or spills.

Photo 9: Liner Removal at Pad 18A (09292010)

Notes: Photo 9 shows liner removal activities. Once the pit was emptied of solid materials, the lined pit was allowed to dry. A track-hoe equipped with a claw was then used to remove the liner from the pit. Excess material was shaken from pieces of the liner. The liner was then staged on the pad for transport to an appropriate waste facility.

Photo 10: Staged Liner and Amended Material on Pad 13C (10122010)

Notes: Photo 10 shows liner and staged amended material piles on well pad 13C. Some small pieces of liner were identified during mixing and other material handling activities and were removed either by hand or track-hoe. Liner materials were transported to an approved waste facility.

Photo 11: 13C Staged Liner Pile (10122010)

Photo 12: Staged Material and Pit Liner on 31A (10292010)

Notes: Liner material was staged for transport to the disposal facility. Liner pile is shown in center of the picture.

Photo 13: Amended Material Sample Location 13C-5 (10122010)

Photo 14: Amended Material Sample Locations 31A-4 and 31A-5 (01052011)

Notes: Amended material samples were collected by hand from staged amended material piles. Sample locations were roughly distributed evenly across the staged amended material. Samples were collected from approximately 3 to 12 inches below the surface.

Photo 15: Empty and Dry Reserve Pit on Pad 13C (10122010)

Notes: After sub-grade testing of pits and confirmatory sampling of amended material, pits were backfilled with amended materials.

Photo 16: Topsoil Storage Pile (09292010)

Notes: Samples of topsoil material were taken prior to any reclamation and excavation work.

Photo 17: Placement of Amended Material on Pad 18A (10292010)

Notes: Photo 17 shows amended material placement and backfilling of the drilling reserve pit in Pad 18A. In addition to amended material, pits were backfilled with clean fill in order to prevent settling and ensure that compaction standards were met. Crews placed material in lifts until the final grade was reached.

Photo 18: Backfilling and Grading Operations on Pad 18A (10292010)

Notes: The bulldozer on the right in Photo 18 is backfilling amended material into where the pit once was. The bulldozer on the left is placing this material and also backfilling clean fill material in order to achieve desired grade and compaction characteristics.

Photo 19: Achieving Appropriate Compaction of Backfilled Material (10292010)

Notes: A Sheep's foot compactor was used during backfilling to achieve desired compaction.

Photo 20: Pad 18A Placement of Amended Material and Fill Material Lifts (10292010)

Notes: Photo 20 shows placement of a lift of amended material during backfilling operations. The bulldozer is located approximately in the center of where the drilling reserve pit was located on Pad 18A.

Photo 21: Nearing Final Grade on Pad 18A (10292010

Notes: Photo 21 shows the part of pad 18A and soil stockpile areas that were being graded and reclaimed as part of interim reclamation. The excavator in the background of the picture is working on the final grade in the far corner of the pad. As the equipment works backwards the grade is being achieved. Topsoil will then be added and final grade checked by WH Smith.

Photo 22: Rough Grade in Comparison to Final Grade and Topsoil Placement on Pad 18A (10292010)

Notes: Final grade has been achieved, topsoil placed, and surveyors have confirmed elevations for the left side of Photo 22. The right side of the photograph depicts an area where grading work still needed to be accomplished.

Photo 23: Pad 18C Compaction on the Cut Slope (10122010)

Notes: A sheep's foot roller was used to achieve appropriate compaction on the reclaimed cut slope on Pad 18C.

Photo 24: Final Grading on Pad 18C (10122010)

Notes: Photos 23 and 24 show Pad 18C nearing final reclamation. In the foreground of both photographs the working portion of the pad is shown. This portion of the pad will remain a flat, vegetation free surface used by Marathon for ongoing production related activities. Behind the orange flagged stakes is the area of the original pad that will be abandoned. In the photographs, topsoil is being placed after the proposed interim grade has been achieved. Some spoil or fill material, shown in the background, will remain stockpiled until final reclamation and abandonment of the entire 18C well pad. A berm will remain in place at the edge of the producing well pad to assist with traffic and erosion management. This berm's future location can be seen directly behind the stakes in the middle of the photographs.

Photo 25: Topsoil Placement on Pad 18C (10122010)

Photo 26: Working Towards Final Interim Fill Slope on Pad 18C (10122010)

Notes: Photo 26 shows the pulling back of the original fill slopes present on Pad 18C. The orange stake represents the new corner of the final interim or production pad. The original pad corner can be seen behind the arm of the excavator. Fill slopes on all well pads were "pulled back" to achieve a more stable and natural grade during production operations.

Photo 27: Final Interim Grade Pad 18C (10292010)

Notes: Photo 27 shows the final interim grade and the edge of the production pad.

Photo 28: Pad 18C Interim Cut Slope (10292010)

Notes: Photo 28 shows the final interim grade of the cut slopes on Pad 18C. The larger cut slope has been seeded and mulched. Shortly after the photograph was taken, a bulldozer track walked the cut slope to ensure the mulch and seed contacted the soil below. This track walking was done in place of crimping because of the angle of the slope. Note the large wind rowed pile of topsoil at the base of the cut slope and behind the well heads. This topsoil pile has been placed here for storage during final abandonment and reclamation activities. The pile will be vegetated to help ensure biologic activity within the soil.

Photo 29: Backfilling on Pad 13C (10292010)

Notes: Photo 29 shows amended material backfilling and placement on pad 13C. No cover had been placed on Pad 13C in this photograph. At least 3 feet of cover was placed on all backfilled amended materials.

APPENDIX D

PIT CLOSURE SUNDRY NOTICES

FORM 4 Rev 12/05

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax:(303)894-2109

DE | ET | OE | ES

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry Information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 53650
2. Name of Operator: Marathon Oil Company
3. Address: 5555 San Felipe
   City: Houston State: TX Zip: 77396
4. Contact Name: Anna Walls
   Phone: (713) 296-3468
   Fax: (713) 513-4394

Complete the Attachment Checklist

	OP	OGCC
Survey Plat		
Directional Survey		
Surface Eqpmt Diagram		
Technical Info Page	x	
Other		

5. API Number 05- 045-14506 OGCC Facility ID Number 335709
6. Well/Facility Name: Pad 696-18C 7. Well/Facility Number
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENW Sec 18, T6S, R96W, 6th P.M.
9. County: Garfield 10. Field Name: Grand Valley
11. Federal, Indian or State Lease Number:

General Notice

☐ CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

		FNL/FSL		FEL/FWL
Change of Surface Footage from Exterior Section Lines:				
Change of Surface Footage to Exterior Section Lines:				
Change of Bottomhole Footage from Exterior Section Lines:				
Change of Bottomhole Footage to Exterior Section Lines:				attach directional survey

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer

Latitude | Distance to nearest property line | Distance to nearest bldg, public rd, utility or RR
Longitude | Distance to nearest lease line | Is location in a High Density Area (rule 603b)? Yes/No
Ground Elevation | Distance to nearest well same formation | Surface owner consultation date:

GPS DATA:
Date of Measurement PDOP Reading Instrument Operator's Name

☐ CHANGE SPACING UNIT

Formation	Formation Code	Spacing order number	Unit Acreage	Unit configuration

☐ Remove from surface bond
Signed surface use agreement attached

☐ CHANGE OF OPERATOR (prior to drilling):
Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ CHANGE WELL NAME NUMBER
From:
To:
Effective Date:

☐ ABANDONED LOCATION:
Was location ever built? ☐ Yes ☐ No
Is site ready for Inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ SPUD DATE:

☐ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

☐ SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

☐ RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately ☐ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

☐ Notice of Intent
Approximate Start Date:

☒ Report of Work Done
Date Work Completed: 10/29/10

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

☐ Intent to Recomplete (submit form 2)
☐ Change Drilling Plans
☐ Gross Interval Changed?
☐ Casing/Cementing Program Change
☐ Request to Vent or Flare
☐ Repair Well
☐ Rule 502 variance requested
☒ Other: Pit Closure
☐ E&P Waste Disposal
☐ Beneficial Reuse of E&P Waste
☐ Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Anna Walls Date: 9/6/11 Email: avwalls@marathonoil.com

Print Name: Anna Walls Title Regulatory Compliance Rep

COGCC Approved: Title Date:

CONDITIONS OF APPROVAL, IF ANY:

FORM 4 Rev 12/05

TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

1. OGCC Operator Number: 53650 API Number:
2. Name of Operator: Marathon Oil Company OGCC Facility ID #
3. Well/Facility Name: Pad 696-18C Well/Facility Number:
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENW Sec. 18, T6S, R96W, 6th P.M.

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

As detailed in the attached report, pit closure has been completed for Marathon pad 696-18C, located in the SENW Sec. 18, T6S, R96W, 6th P.M.

Elevated arsenic concentrations were measured in the stockpiled fill materials and in the subgrade sample. These concentrations were much higher than the pit material arsenic concentrations detailed in the 2010 Closure Plan, which averaged 3.9 ppm. Based on these comparisons, and the corresponding results confirming no other contamination in the subgrade and stockpiled fill materials, it was concluded that the elevated arsenic concentrations were due to background conditions and were not due to Marathon operations

It is also noted that three of the four samples of stockpiled fill materials exceeded the Table 910-1 pH standard of 9; the maximum pH value was 9.13. As noted in the report, these materials were excavated in connection with initial pad/pit construction and had not been exposed to any operational fluids or other sources of contamination. Again, it was concluded that the elevated pH values were due to background conditions and were not due to Marathon operations.

As discussed with COGCC, PAH concentrations exceeding Table 910-1 standards were indicative of background concentrations present within the Mahogany Zone of the Green River Formation.

FORM 4 Rev 12/05

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax:(303)894-2109

DE | ET | OE | ES

SUNDRY NOTICE

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1. OGCC Operator Number: 53650
2. Name of Operator: Marathon Oil Company
3. Address: 5555 San Felipe
   City: Houston State: TX Zip: 77396
4. Contact Name: Anna Walls
   Phone: (713) 296-3468
   Fax: (713) 513-4394

Complete the Attachment Checklist

	OP	OGCC
Survey Plat		
Directional Survey		
Surface Eqpmt Diagram		
Technical Info Page	x	
Other		

5. API Number 05- 045-14737 OGCC Facility ID Number 335710
6. Well/Facility Name: Pad 696-18A 7. Well/Facility Number
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): SWNE Sec 18, T6S, R96W, 6th P.M.
9. County: Garfield 10. Field Name: Grand Valley
11. Federal, Indian or State Lease Number:

General Notice

☐ CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

		FNL/FSL		FEL/FWL	
Change of Surface Footage from Exterior Section Lines:					
Change of Surface Footage to Exterior Section Lines:					
Change of Bottomhole Footage from Exterior Section Lines:					
Change of Bottomhole Footage to Exterior Section Lines:					attach directional survey

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer

Latitude | Distance to nearest property line | Distance to nearest bldg, public rd, utility or RR
Longitude | Distance to nearest lease line | Is location in a High Density Area (rule 603b)? Yes/No
Ground Elevation | Distance to nearest well same formation | Surface owner consultation date:

GPS DATA:
Date of Measurement PDOP Reading Instrument Operator's Name

☐ CHANGE SPACING UNIT

Formation	Formation Code	Spacing order number	Unit Acreage	Unit configuration

☐ Remove from surface bond
Signed surface use agreement attached

☐ CHANGE OF OPERATOR (prior to drilling):
Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ CHANGE WELL NAME NUMBER
From:
To:
Effective Date:

☐ ABANDONED LOCATION:
Was location ever built? ☐ Yes ☐ No
Is site ready for Inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ SPUD DATE:

☐ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

☐ SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

☐ RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately ☐ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

☐ Notice of Intent
Approximate Start Date:

☒ Report of Work Done
Date Work Completed: 11/16/10

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

☐ Intent to Recomplete (submit form 2)
☐ Change Drilling Plans
☐ Gross Interval Changed?
☐ Casing/Cementing Program Change
☐ Request to Vent or Flare
☐ Repair Well
☐ Rule 502 variance requested
☒ Other: Pit Closure
☐ E&P Waste Disposal
☐ Beneficial Reuse of E&P Waste
☐ Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Anna Walls Date: 9/6/11 Email: avwalls@marathonoil.com

Print Name: Anna Walls Title Regulatory Compliance Rep

COGCC Approved: Title Date:

CONDITIONS OF APPROVAL, IF ANY:

FORM 4 Rev 12/05

TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

1. OGCC Operator Number: 53650 API Number:
2. Name of Operator: Marathon Oil Company OGCC Facility ID #
3. Well/Facility Name: Pad 696-18A Well/Facility Number:
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SWNE Sec. 18, T6S, R96W, 6th P.M.

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5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

As detailed in the attached report, pit closure has been completed for Marathon pad 696-18A, located in the SENW Sec. 18, T6S, R96W, 6th P.M.

As planned, the pit closure process included mixing the 18A pit materials with clean soil. The initial amended materials (samples 18A-AM1 through AM5 in Table 4) exceeded some COGCC Table 910-1 standards, so the amended materials were mixed with additional clean soil and again sampled (samples 18A-AM6 through AM10 described in Table 5). The following observations are based on the Pit 18A analytical results

- Topsoil Samples (18A-TS1 and 18A-TS2) – The only exceedances of COGCC Table 910-1 standards were for arsenic, and the arsenic values were consistent with background concentrations.
- Fill Samples (18A-F1 through 18A-F4) – Except for arsenic and single outliers for EC and benzo(A)pyrene, there were no exceedances of COGCC Table 910-1 standards. These fill materials were excavated in connection with initial pad/pit construction, and had not been exposed to any operational fluids or other sources of contamination.
- Subgrade Sample (18A-SG1) – Except for pH, arsenic and select PAH compounds, there were no exceedances of COGCC Table 910-1 standards in the material below the pit liner. The pH value of 9.1, the arsenic concentration of 9.1 ppm, and the low PAH concentrations were considered representative of background conditions.
- Amended Material Samples (18A-AM6 through 18A-AM10)
  - Arsenic concentrations averaged 15.3 ppm, which makes sense based on the arsenic concentrations measured in the fill that was mixed with the pit materials.
  - As discussed with COGCC, PAH concentrations exceeding Table 910-1 standards were indicative of background concentrations present within the Mahogany Zone of the Green River Formation.
  - TPH concentrations ranged from 439.6 to 586.1 ppm, except for sample 18A-AM9, which was 872.6 ppm and was considered an outlier. Excluding sample 18A-AM9, the average TPH concentration in the mixed pit/clean materials was 502.2 ppm, compared to the COGCC Table 910-1 standard of 500 ppm.

As noted above, Bolton had twice mixed the 18A pit materials with clean soil, and the resulting amended materials were characterized by BTEX concentrations well below the COGCC Table 910-1 standards. On October 21, 2010, the COGCC agreed that only a portion of the 18A pit materials required additional admixing. This supplemental admixing resulted in the concentrations shown in Table 6, which were acceptable based on COGCC criteria.

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   Phone: (713) 296-3468
   Fax: (713) 513-4394

Complete the Attachment Checklist

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Survey Plat		
Directional Survey		
Surface Eqpmt Diagram		
Technical Info Page	x	
Other		

5. API Number 05- 045-14245 OGCC Facility ID Number 335857
6. Well/Facility Name: Pad 697-13C 7. Well/Facility Number
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): SESW Sec 13, T6S, R97W, 6th P.M.
9. County: Garfield 10. Field Name: Grand Valley
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Ground Elevation | Distance to nearest well same formation | Surface owner consultation date:

GPS DATA:
Date of Measurement PDOP Reading Instrument Operator's Name

☐ CHANGE SPACING UNIT

Formation	Formation Code	Spacing order number	Unit Acreage	Unit configuration

☐ Remove from surface bond
Signed surface use agreement attached

☐ CHANGE OF OPERATOR (prior to drilling):
Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ CHANGE WELL NAME NUMBER
From:
To:
Effective Date:

☐ ABANDONED LOCATION:
Was location ever built? ☐ Yes ☐ No
Is site ready for Inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ SPUD DATE:

☐ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

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Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

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☐ Notice of Intent
Approximate Start Date:

☒ Report of Work Done
Date Work Completed: 11/16/10

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

☐ Intent to Recomplete (submit form 2)	☐ Request to Vent or Flare	☐ E&P Waste Disposal
☐ Change Drilling Plans	☐ Repair Well	☐ Beneficial Reuse of E&P Waste
☐ Gross Interval Changed?	☐ Rule 502 variance requested	☐ Status Update/Change of Remediation Plans
☐ Casing/Cementing Program Change	☒ Other: Pit Closure	for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Anna Walls Date: 9/6/11 Email: avwalls@marathonoil.com

Print Name: Anna Walls Title Regulatory Compliance Rep

COGCC Approved: Title Date:

CONDITIONS OF APPROVAL, IF ANY:

FORM 4 Rev 12/05

TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

1. OGCC Operator Number: 53650 API Number:
2. Name of Operator: Marathon Oil Company OGCC Facility ID #
3. Well/Facility Name: Pad 697-13C Well/Facility Number:
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SESW Sec. 13, T6S, R97W, 6th P.M.

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

As detailed in the attached report, pit closure has been completed for Marathon pad 696-13C, located in the SENW Sec. 18, T6S, R96W, 6th P.M.
The following observations are based on the Pit 13C analytical results.

- Topsoil Samples (13C-TS1 and 13C-TS2) – The only exceedances of COGCC Table 910-1 standards were for arsenic, and the arsenic values were consistent with background concentrations.
- Fill Samples (13C-F1 through 13C-F4) – Except for arsenic and pH, there were no exceedances of COGCC Table 910-1 standards. These fill materials were excavated in connection with initial pad/pit construction, and had not been exposed to any operational fluids or other sources of contamination.
- Subgrade Sample (13C-SG1) – Except for arsenic and pH, there were no exceedances of background concentrations or COGCC Table 910-1 standards in the material below the pit liner.
- Amended Material Samples (13C-AM1 through 13C-AM5)
  - pH values in the mixed materials averaged 9.32, which exceeded the COGCC Table 910-1 standard of 9. However, these amended materials were be covered by at least 3 feet of materials with agricultural standard values acceptable to COGCC
  - Arsenic concentrations averaged 9.28 ppm, which makes sense based on the elevated arsenic concentrations in the fill materials noted above.
  - As discussed with COGCC, PAH concentrations exceeding Table 910-1 standards were indicative of background concentrations present within the Mahogany Zone of the Green River Formation.

FORM 4 Rev 12/05

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax:(303)894-2109

DE | ET | OE | ES

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry Information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 53650
2. Name of Operator: Marathon Oil Company
3. Address: 5555 San Felipe
   City: Houston State: TX Zip: 77396
4. Contact Name: Anna Walls
   Phone: (713) 296-3468
   Fax: (713) 513-4394

Complete the Attachment Checklist

	OP	OGCC
Survey Plat		
Directional Survey		
Surface Eqpmt Diagram		
Technical Info Page	x	
Other		

5. API Number 05- 045-15091 OGCC Facility ID Number 335875
6. Well/Facility Name: Pad 596-31A 7. Well/Facility Number
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE Sec 31, T5S, R96W, 6th P.M.
9. County: Garfield 10. Field Name: Grand Valley
11. Federal, Indian or State Lease Number:

General Notice

☐ CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

		FNL/FSL		FEL/FWL	
Change of Surface Footage from Exterior Section Lines:					
Change of Surface Footage to Exterior Section Lines:					
Change of Bottomhole Footage from Exterior Section Lines:					
Change of Bottomhole Footage to Exterior Section Lines:					attach directional survey

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer

Latitude | Distance to nearest property line | Distance to nearest bldg, public rd, utility or RR
Longitude | Distance to nearest lease line | Is location in a High Density Area (rule 603b)? Yes/No
Ground Elevation | Distance to nearest well same formation | Surface owner consultation date:

GPS DATA:
Date of Measurement PDOP Reading Instrument Operator's Name

☐ CHANGE SPACING UNIT

Formation	Formation Code	Spacing order number	Unit Acreage	Unit configuration

☐ Remove from surface bond
Signed surface use agreement attached

☐ CHANGE OF OPERATOR (prior to drilling):
Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ CHANGE WELL NAME NUMBER
From:
To:
Effective Date:

☐ ABANDONED LOCATION:
Was location ever built? ☐ Yes ☐ No
Is site ready for Inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ SPUD DATE:

☐ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

☐ SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

☐ RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately ☐ Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

☐ Notice of Intent
Approximate Start Date:

☒ Report of Work Done
Date Work Completed: 1/5/11

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

☐ Intent to Recomplete (submit form 2)
☐ Change Drilling Plans
☐ Gross Interval Changed?
☐ Casing/Cementing Program Change
☐ Request to Vent or Flare
☐ Repair Well
☐ Rule 502 variance requested
☒ Other: Pit Closure
☐ E&P Waste Disposal
☐ Beneficial Reuse of E&P Waste
☐ Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Anna Walls Date: 9/6/11 Email: avwalls@marathonoil.com

Print Name: Anna Walls Title Regulatory Compliance Rep

COGCC Approved: Title Date:

CONDITIONS OF APPROVAL, IF ANY:

FORM 4 Rev 12/05

TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

1. OGCC Operator Number: 53650 API Number:
2. Name of Operator: Marathon Oil Company OGCC Facility ID #
3. Well/Facility Name: Pad 596-31A Well/Facility Number:
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE Sec. 31, T5S, R96W, 6th P.M.

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

As detailed in the attached report, pit closure has been completed for Marathon pad 696-31A, located in the SENW Sec. 18, T6S, R96W, 6th P.M. The following observations are based on the Pit 31A analytical results.

- Topsoil Samples (31A-TS1 and 31A-TS2) – The only exceedances of COGCC Table 910-1 standards were for arsenic, and the arsenic values were consistent with background concentrations.
- Fill Samples (31A-F1 through 31A-F4) – Except for arsenic, PAH, and pH, there were no exceedances of COGCC Table 910-1 standards. These fill materials were excavated in connection with initial pad/pit construction, and had not been exposed to any operational fluids or other sources of contamination.
- Subgrade Sample (31A-SG1) – Except for arsenic, PAH, and pH, there were no exceedances of background concentrations or COGCC Table 910-1 standards in the material below the pit liner.
- Amended Material Samples (31A-AM1 through 31A-AM5)
  - pH values in the mixed materials averaged 9.2, which exceeds the COGCC Table 910-1 standard of 9. However, these amended materials were covered by at least 3 feet of materials with agricultural standard values acceptable to COGCC
  - Arsenic concentrations averaged 4.0 ppm, which makes sense based on the elevated arsenic concentrations in the fill materials noted above.
  - As discussed with COGCC, PAH concentrations exceeding Table 910-1 standards were indicative of background concentrations present within the Mahogany Zone of the Green River Formation.

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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